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THE LANCET.

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Introductory Address

Delivered at St George's Hospital on Oct. 2nd, 1905, at the Opening of the Medical Session,

By ROBERT BRUDENELL CARTER, F.R.C.S. Eng.,

CONSULTING OPHTHALMIC SURGEON TO THE HOSPITAL.

LADIES AND GENTLEMEN,—Of the multitude of persons, many of them in various ways eminent or distinguished, who have had the honour of delivering introductory addresses at St. George's Hospital, I believe I may claim to be the first to whom that honour has brought with it the privilege of commencing with the words "Ladies and Gentlemen." It has seemed to the wisdom of the medical council of our school that the important position now held by women as members of the medical profession, together with the important position which they have always held among those by whom the services of the profession are required, will more than justify this departure from precedent; and, although the seats in our lecture rooms are not yet to be occupied by "sweet girl graduates with their golden hair," the time has certainly come when the general aims of the medical practitioner, the methods by which those aims must be pursued, and the scope of the training calculated to lead to their attainment, are matters almost as interesting to mothers and to sisters as they must be to the students more immediately concerned. The occurrence and the consequences of disease present, on the whole, by far the greatest of the known impediments to human happiness and to human progress, by far the greatest and the most widely diffused of all the sources of misery and of suffering with which we are acquainted. The death which comes with equal footstep to the cottages of the poor and to the palaces of kings, comes, whenever it may fairly be described as premature, as a result occasionally, indeed, of accident, but usually of disease; and a victory gained over even a single prevalent disease would be of far greater value to mankind than any probable achievements in the directions of generalship, of diplomacy, of legislation, or of commerce. I may remind you in passing that we some of us look forward, not without anxiety, to the future competition of Germany in various fields of activity; and it is impossible to ignore the extent to which we may be handicapped, in that competition, by the single fact that Germany, by the proper application of an English medical discovery, has banished small-pox from within her boundaries, while we still permit it to levy a large annual tribute of lives and money upon our population, to attack thousands of people, and to condemn, among those whose lives are spared, a considerable proportion to blindness, to disfigurement, or to permanent debility of a certain kind to be handed down, in ever widening circles, to the offspring of successive generations. The problem set before the authorities of a medical school is how best to assist in establishing effective barriers against disease; or, in other words, how best to deal with the admirable raw material furnished by English homes and by English training, with the definite object of producing men, and nowadays also women, who shall not only be conversant with disease in all its manifestations, and with the means of prevention or of cure in all their forms, but who shall also be wise and trustworthy counsellors, alike in the hundred and one domestic questions which are constantly brought under the notice of the doctor and submitted to his decision, and in those wider questions of conduct which lie at the root of national efficiency, and with which our clergy, our statesmen, and our politicians have hitherto shown themselves so little competent to deal effectively. The great problems of life and of society, using the words in their widest sense, are mainly problems of health, of habits, and of physical environment; and concerning these the medical profession, and the medical profession alone, either possesses or is able fully to acquire the knowledge which is necessary for the guidance of the public. Our object here is not only to impart this knowledge to our students, but also to impart it in such a manner that, in their hands, it may become a powerful agent for the promotion of the general welfare. The interest which such an object should excite has few limitations of age, and it should certainly have none of sex. The accuracy of the conclusions of medical science, and the adoption of these conclusions as the bases of life, are matters in which men and women have equal concern, and in which the young, the heirs of the future, have a concern even greater than that of their elders.

The occasion of the departure from precedent to which I have referred is, however, an anniversary; and those who celebrate an anniversary are usually called upon to be in the first instance retrospective, to glance at the changes which a year has wrought, and often, alas, to place a wreath upon a tomb. To this rule our gathering to-day will not furnish an exception; and although the promotions and appointments which have occurred in the school, and which would chiefly interest only a portion of my present audience, will be more fittingly dealt with this evening by the Dean, and in what politicians might describe as "another place," it is none the less my duty to speak of those who have been taken away, but who have left to St. George's the heritage of their fame, and to all future students the stimulus of their example. Dr. John Ogle, lately our senior consulting physician, has passed from us in the ripeness of beloved and honoured old age, but still, as Bishop Earle has it, "too soon whensoever, with all men's sorrow but his own," leaving, however, as one element of consolation, the knowledge that he is still represented here by a son who inherits not only the ability of his father, but also the high qualities of mind and disposition by which that ability was adorned. Before the fate of Mr. Allingham, taken from us in the full vigour of his usefulness, and when he was but approaching what seemed likely to be the zenith of his brilliant career, we can only bow our heads in reverent silence, and recognise one more example of the severity of the losses which are inflicted upon mankind by the ravages of disease, or by the failure of the delicate organisation of the brain-cell to hold its own against the storm and stress of the events of life. Among former house officers of the hospital, death has claimed Mr. Blackett, of Seymour-street, and Dr. Hale, of Windsor; and, among former students, Dr. William Ogle, of Derby, Mr. Talbott, of Bristol, Mr. Cyril Grindrod, and Mr. F. J. Grosvenor. These rest from their labours, and their works do follow them. We have also to deplore the loss, by approaching or by accomplished resignation, of Mr. Todd, the very embodiment and personification of St. George's Hospital, and for nearly 45 years its highly esteemed and highly valued secretary, and of Mr. F. J. Marshall, for 30 years resident medical officer, and always the trustworthy and helpful friend of all with whom his duties brought him into any kind of relation. Sir Isambard Owen, too, has gone from us to undertake the control of a northern university, which cannot fail to prosper under his sagacious guidance; and Dr. Penrose has exchanged the turmoil of London for the ease and tranquillity of country life. To these gentlemen we owe our cordial thanks for long and valuable services; we wish them health, honour, and prosperity; and we turn our thoughts, in all hopefulness, to those who will worthily succeed to them. "*Le roi est mort, vive le roi.*"

Medical Education.

The necessary elements of medical education, regarded from the point of view which I endeavoured to indicate in my opening observations, are a knowledge of the structure and functions of the several parts of the human body, and of their relations to each other, together with a knowledge of the manner in which they are calculated to respond to the various agencies, beneficial or harmful as the case may be, which from time to time constitute their environment. Man as he is, and man in relation to the forces by which he is surrounded, are the two chief subjects of our study; and the latter, which to the chemistry and physiology of even recent years appeared to be comparatively simple, is to-day becoming more and more complicated by new conceptions of the nature of the universe, and of the intimate constitution of all material things. We still neutralise what we call an acid by what we call an alkali; but our conceptions of the nature of an acid and of an alkali are wholly changed, and our belief in the existence of some 70 different and undecomposable "elements" is fast giving way to a belief that both the inanimate universe and all living creatures are alike built up of units of electricity of almost inconceivable minuteness, arranged in varying combinations with an all-pervading ether. There seems to be much ground for the growing conviction, not only that the supposed "elements" are merely different groupings of the same materials, but also to

believe that some of them are the results of the breaking up of others into simpler and different forms; that radium, for example, is a result of the partial decomposition of uranium, that helium is a result of the decomposition of radium, and that analogous changes are in constant course of occurrence around us. In order that medical men may perceive the applications of this new and rapidly growing knowledge to the varying conditions of the human body in health and disease, it is necessary for them to be, if not independent investigators in physical science, at least competent and appreciative observers of the investigations of others; and this object cannot be attained, as it seems to me, either by the chiefly didactic instruction in the so-called "chemistry" and "physics" of four or five years ago which is sometimes given to the advanced classes in a boys' school, or even by the perfunctory teaching and the imperfectly equipped laboratories of some of the existing medical schools in London and elsewhere. I am deeply convinced that the future of physics is the future of medicine, and that a real and thorough training in physics should form, and eventually must form, the essential groundwork of medical education. For this reason I gladly welcome the changes which enable the University of London to undertake the education in physics of the medical students of the future, and thus to leave the schools of the metropolitan hospitals at liberty to devote themselves entirely to what I conceive to be their proper task, that is to say to the instruction, in the phenomena of sickness and in the methods of dealing with them, of students whose minds have been rendered at once cautious and receptive by preliminary scientific culture. For the conduct of such instruction, access to an abundance of examples of sickness is essential; and the wards and out-patient rooms of a hospital are the only places in which such an abundance can be secured.

TRAINING IN PHYSICS.

I have used the words "a real and thorough training in physics" advisedly, because that, and not a mere imparting of information as to what has been discovered, is what I mean to convey. The groundwork of all error, in medicine and in everything else, must be sought in the willingness of mankind to accept dogmatic assertions which are not supported by trustworthy evidence; and this habit of mind, which it is the tendency of a great deal of didactic teaching to foster, it should be the aim and tendency of real education to banish and drive away. I doubt whether there has been, in the course of the world's history, any period during which truth has been less regarded than it is at the present day, or in which reckless assertion, or even direct mendacity, in trade, in politics, and in many other forms of human activity, has been as prevalent as we now see it around us. There may be many pursuits in which falsehood may appear to be of some temporary utility or advantage to those engaged in them; but to these the art of healing, as distinguished from the unscrupulous profit-seeking of men who are actually or virtually quacks, must always furnish a conspicuous exception. In medicine, nothing that is not true is useful; and hence medical education should from the first be so directed as to afford a mental touchstone by which the truth of mere assertions may be tried. Such assertions, with regard to diseases and remedies, are put forward in great numbers, and, sometimes, with such circumstantiality that they might deceive the very elect. It is the duty of the members of the medical profession not only to keep their own heads clear in relation to such matters, but also to protect the public, so far as they will suffer themselves to be protected, against both the trickery of knaves and the enthusiasm of fools. When we read, in a halfpenny newspaper, that cancer may be cured by the simple expedient of swallowing a few spoonfuls of Barbadoes treacle, we are probably only inclined to smile; but, when we read that it may be cured by an application of "radium," or of "high frequency currents," both of them the names of agencies which will sound mysterious to the public, and both of them certain to be exploited for gain by some of the less personally adventurous of the criminal classes, by rascals who would shrink from the risks of burglary, but who do not hesitate to rob the sick or the dying, it behoves us to be promptly upon our guard, and to be able to fall back upon experience for tests of the accuracy of the assertions which are made to us. The only experience which is available for this purpose is experience not only of the nature and meaning of proof, but also of the actual methods of investigation by which error can be excluded or eliminated; and experience of this kind, if not precisely confined to the domain of physical science, is at least more abundant and more accessible within that domain than elsewhere. Moreover, as Faraday pointed out 50 years ago, the laboratory, on questions as to which certainty is not yet within our reach, will often afford the best attainable means of estimating degrees of probability, and thus of directing the mind towards the paths which it is most likely ultimately to be called upon to tread. For these reasons, among many others, I regard not mere information about the conclusions of physical science, but instruction in the methods by which those conclusions have been reached, and by which they may be verified, as the indispensable foundation of a sound and comprehensive medical training; and I am disposed to think that most of the errors which, in times past, have exposed the medical profession to harsh but not always wholly unjustifiable criticism have been due, in the main, to a very imperfect appreciation, on the part of those who have controlled schools and examinations, of the real bearing of physical science upon the daily work of the practitioner. On these grounds I would express my respectful but very strong disapproval of the course recently pursued by the Royal Colleges of Physicians and of Surgeons in this metropolis, in resisting, as they have done, the endeavours of the General Medical Council to raise the character and standard of the so-called "preliminary" science teaching; and I would also deprecate the action of those medical schools the authorities of which aim at retaining the science teaching in their own hands, subject to all the disadvantages which must arise from what, as compared with the probable future development of the University, will be paucity of equipment in the laboratories, and something less than due eminence of position for the professor. I look forward to a time when the training in science of medical students will no longer be regarded as a matter of comparatively unimportant drudgery, to be undertaken chiefly as a possible stepping-stone to a more inviting career, but will become, in the hands of the University, at once an important part of the life-work of those who are engaged in conducting it, and a fertile source of intellectual activity and of growing knowledge among those by whom it is received.

I cannot pass over in entire silence an argument for the continued conduct of science teaching in hospital schools which has been publicly put forward by an eminent surgeon, the argument of comparative cheapness. He said, in effect, that a consideraule proportion of medical students are men of slender means, often the sons of parents who could not afford to give their children any but a very inexpensive education, and that these children would be altogether excluded from the profession if the cost of study were much increased. Well, if I were placed in control of medical education, I should accept the alternative. I have met with a few instances in which men who had been without early advantages, and who had been compelled to live from hand to mouth when they commenced practice, have by force of genius and of good conduct overcome all difficulties, and have not only rendered themselves highly accomplished practitioners, but have won for themselves the general respect and esteem of the communities among which their lot was cast. I believe these cases to be too exceptional to affect the general argument and that the persons furnishing them would have obtained analogous success in any other department of activity. I do not think it is to the interest either of the public or of practitioners that imperfectly educated young men, without either adequate capital or exceptional capacity, should be encouraged or assisted to enter the medical profession. That profession is not a refuge for the destitute; and it requires from its members, alike for their own dignity and for the safety of the public, the observance of standards of conduct from which poor men may have many temptations to deviate. It has been my lot, as a member of the General Medical Council, to see the darker side of the picture, and to sit in judgment upon a number of cases in which medical practitioners have been charged with what is technically described as infamous conduct in a professional respect. As a rule, the persons so charged have been weak men, imperfectly educated, and compelled to struggle against adverse circumstances, among which their own unfitness for their calling has usually been one of the most conspicuous. I should gladly see the University itself enabled, by the gifts of the wealthy, to hold out a helping hand to men of proved diligence and ability, and should expect those who thus deserved and received assistance to win high places in the profession; but I have no desire to see the requirements of the licensing bodies

adjusted with a view to the supposed financial position of the students of the future. It would be a sounder and a wiser policy to point to the necessary cost of medical education, and to the wide scope of medical attainments, as grounds for demanding increased remuneration, primarily in the public service of the country, and afterwards, in many cases, as between the patient and his doctor.

TRAINING IN THE USE OF LANGUAGE.

And next in importance to a thorough training in physical science I should be inclined to place a business which ought to be at least commenced in ordinary schools, although it is too often totally neglected in them, and that is an equally thorough training in the use of language. I do not mean the study of languages, either ancient or modern, as the phrase is commonly understood; a study which may lead to the possession of an eminently useful accomplishment, and which opens a door to the enjoyment of wide fields of literature and of thought; but I mean such a study, it may be of one language alone, as will confer upon those who pursue it a capacity for forming clear ideas themselves, and for expressing these ideas in a manner clearly intelligible to others. By what percentage of the English people who are said to be educated is either of these powers possessed? Cobbett said that "an English sentence should be as clear as a pebbled brook; that it should not only not be liable to be misunderstood, but that it should not be capable of being misinterpreted." Of how many of the sentences which we read, or which we hear spoken around us, can it be said that they fulfil Cobbett's requirements? In so far as they do not fulfil those requirements they afford evidence either of confusion of thought or of ignorance of the structure and the resources of language. It is not very unusual to hear the clearest assertion entirely perverted by someone who professes to repeat it, and who would declare, if his or her accuracy were challenged, that the words first used had been "as much as to say" so and so? Is it not in this way that so many disputes and mistakes arise even about comparatively trivial matters; and, when these mistakes are carried into the domain of facts which have extensive bearings upon human health and life, is it not manifest that they may become of great and far-reaching importance? It is commonly said that French people, and especially French women, whatever else they may or may not know, at least know French; and is it not time that something of the same kind could be said concerning ourselves? There is high authority in favour of the affirmative of the proposition. Many of our greatest scholars and greatest philosophers have dwelt upon the importance of English as a branch of study, and I could easily exhaust my time, and your patience, with quotations bearing upon the subject. Locke, for example, says "whatever foreign language a young man meddles with (and the more he knows the better) that which he should critically study, and labour to get a facility, clearness, and elegancy to express himself in, should be his own, and to this purpose he should be daily exercised in it." He says elsewhere, what is sadly true in the present day, "that to mind what English his pupil speaks or writes is below the dignity of one bred up amongst Greek and Latin, though he have but little of them himself." In the same way the modern schoolmaster, even though his Latinity be on a somewhat lower plane than that of Joseph Scaliger, rather despises the tongue of Shakspeare, of Milton, and of Addison, and is usually content, either for his pupils or for himself, with "English as she is spoke." Quite recently, our newspapers have contained a mass of correspondence on alleged national deterioration, written by grave men in serious mood, and plentifully besprinkled with such words as genius, intellect, ability, capacity, and so on, to not one of which any definite meaning seems to have been attached by those who have used them. Must I confess that, both as an examiner of the written answers furnished by competitors for prizes, and as a visitor of professional examinations on the part of the General Medical Council, I have sometimes encountered compositions which would not have satisfied Cobbett, and which have induced me to regret that their authors were not better able to give expression in English to the conceptions of their minds. I have an absolute conviction that no one who does not thoroughly understand at least one language can ever thoroughly understand anything else; and I would beg of all medical students to remember that such an understanding is essential, not only to a complete mastery over the facts and doctrines with which they are called upon to acquaint themselves, but also to the attainment of that power of lucid exposition which is one of the secrets of establishing influence over the sick. A man who shows that he has a perfectly clear comprehension of what he is talking about, and that he can render it intelligible to others, has made a long step towards securing that confidence, on the part of the patient, which is a tower of strength to the practitioner.

Among the evil consequences of the prevailing neglect or ignorance of English not the least important is that it has led to the invention of an inordinate quantity of a *quasi* classical jargon, for the expression of simple scientific facts or doctrines; a jargon of which it would be difficult to say whether illiteracy or absurdity is its predominating character. The ancient languages, it is well said by Tyndall, "are the means of access to the ancient mind, and as such they must ever be of priceless value to humanity; but it is as the avenues of ancient thought, and not as the instruments of modern culture, that they are chiefly valuable to man." There was something to be said, no doubt, for the system which once prevailed, of regarding Latin as the common language of the learned in all countries; although, if this system had continued to prevail, the insufficiency of Latin for the expression of many modern thoughts and discoveries would have imperatively demanded its frequent enrichment by words and phrases borrowed from living tongues. But a modern Englishman, who, since he left school, has been more or less occupied about matters of science, although his knowledge of English may be very imperfect, is presumably better acquainted with English than with Greek; and, if he meet with objects or phenomena which he is unable to name or to describe accurately in the former, he is scarcely likely to be rendered more successful by the use of coinages which he supposes to be derived from the latter, but which no resuscitated Athenian of the time of Plato would be able to understand, and which no two modern Englishmen would understand in the same way until the intentions of the coiner had been explained to them. As a single example, take the circumstance that an eminent man has lately proposed the *quasi* Greek "Eugenics" as the name of a future science which is to be concerned with improvement in the *quality* of offspring, although practically the same word, "Eugenesis," had previously been employed to express mere fertility, abundance of offspring, without reference to quality. "Eugenia," again, said to be derived from the name of Prince Eugene of Savoy, a name presumably expressive of his being what Germans would call "wohlgeboren," has been given by botanists as a generic appellation to some hundreds of species of myrtaceous trees and plants; and so "eugenic acid" is the name given by chemists to an aromatic substance yielded by some of the trees and plants in question. Hence, if we begin talking about "eugenics," no one, without preliminary explanation in a modern language, can be expected to be quite sure of what we mean; and, if the preliminary explanation be necessary, what is the use of the word which has to be explained? Bacteriology, to take another example, is overloaded with this verbal rubbish. Who is helped by calling a minute spheroidal fungus a "coccus," that is to say, a berry, which it is not, rather than a spherule, which it is? A berry is a vegetable product of definite structure, totally different from that of a spheroidal fungus; and the object of scientific nomenclature should be to prevent confusion, not to create it by giving the same name to objects between which there is no real resemblance. I will not pursue the subject, farther than to say that a modern scientific book, or even a modern medical one, professedly written in English, has more than once reminded me of the humourous parody upon Irish which is contained in the verses of Thackeray's "Battle of Limerick."

> "Then we summoned to our board,
> Young Meagher of the sword,
> 'Tis he will sheathe that battle-axe in Saxon gore."

The language of the book is often just as confused, as inconsequent, and as misleading; and I wish the profession could produce a Thackeray who could do justice to much of what is described as its "literature." My own object will be more than fulfilled if I can induce even one of my audience always to remember the "pebbled brook" before committing himself to the task of exposition in speech or writing, and to remember also that he can derive no real benefit, unless it be in learning what to avoid, from the perusal of a composition the language of which is obscure, or the sentences of which are confused. If, at the end of a

paragraph, the question "What does that precisely mean?" cannot be promptly and definitely answered, the reader who attaches a proper value to his own time and effort will turn elsewhere in his quest after instruction.

MEDICAL ETHICS.

Contemporaneously with the study of physics, and also, I hope, with the study of the precise meanings of words, will come that of the mechanical structure of the human body, and of the functions of its different parts. The work of the dissecting room will be supplemented by that of the physiological laboratory and of the microscope; and in due time the student will reach the goal for which at least the two preceding years have been a preparation, and will be admitted into the wards of the hospital, to commence, under proper guidance, what should be a life-long study of disease, to form ties and friendships which will never cease to influence his career, to be advantageously differentiated from the great majority of the human race as, let us say, a St. George's man, and to be gradually initiated into the ethical relations which should subsist, on the one hand, between the physician and the patient, on the other, between any one member of a great profession and his brethren. It is somewhat to be regretted, I think, that neither of these two sets of relations has yet been made a subject of definite instruction in our hospital schools, and that, by reason of this deficiency, there is some danger lest the best traditions of the great men of the past should be but imperfectly handed down to their successors. I am from some points of view disposed to regret the system which prevailed in the days of my youth, when the ordinary door of entrance to the profession was by domestic pupilage to an established practitioner, and when experience of the methods of conducting a practice smoothly and honourably preceded the teachings of the schools. There is much to be said in favour of the change, there is at least something to be said in favour of an attempt to retain some of the best features of a system which, as a whole, has passed away beyond recall. It has often been my privilege, in former years, to compare notes with Sir James Paget as to the advantages derived from this period of our early professional education, and to join with him in regretting that of these advantages our juniors were in some measure deprived.

The best foundation of medical ethics, of our duties towards our patients and towards each other, is furnished, I think, by the simple principle of saying or writing only what is true; a course of conduct which can only be consistently followed as a result of knowing what is true; that is to say, by the assiduous cultivation of the power of distinguishing truth from error. This power, in its complete development, is the last attainment of an intellect originally vigorous, and carefully trained in scientific methods; but it is probably attainable in some degree by all who will really strive for it, and who will seek to bring their minds under proper discipline. Bishop Butler complained that, in his day, there was great curiosity to know what was said, but no corresponding curiosity to know what was true; and since then there has probably been but little change in human nature. The gravest sins against truth committed by medical men arise from the hasty adoption or hasty putting forth of unverified conjectures about the nature of disease or its treatment; and the more prevalent or the more fatal a disease, or the more it may occupy public attention at the moment, the more certain it is to be made the subject of such conjectures. In their origin these are often eminently laudable, and their legitimate use is to serve as starting points for complete investigation. A man to whom it occurs, for example, that appendicitis, or gout, or acute rheumatism, is produced by some particular habit or mode of life, has before him an interesting subject of inquiry; and, if he pursue the inquiry in silence, and carefully, by the accurate observation of a sufficient number of facts or instances, he may possibly be able to establish the truth of his conjecture, although it is many times more probable that he will find himself compelled to abandon it. But if, instead of investigating, he publish his conjecture as the latest contribution of science to the welfare of humanity, and if he urge abstinence from tea or from pickles as a proceeding certain to afford exemption from the malady in question, he is not only deceiving those to whom he offers himself as a guide, but he is also destroying his own capacity to distinguish truth from falsehood. He is descending, by a voluntary act, from the pedestal of accuracy upon which men of science should stand, and is seeking temporary profit or temporary notoriety at a price too high to pay for either. "The world little knows," said Faraday, "how many of the thoughts and theories which have passed through the mind of a scientific investigator have been crushed in silence and secrecy by his own severe criticism and adverse examination; or that in the most successful instances not a tenth of the suggestions, the hopes, the wishes, the preliminary conclusions, have been realised." The principle is as true of medicine as it is of physics; and men who forget or abandon the principle not only degrade themselves to the level of the vulgar, but they degrade their profession in the eyes of the world, and diminish the influence which it is legitimately entitled to exert. They furnish whatever justification there may be in facts for popular depreciation of medicine and its professors; depreciation which is almost entirely founded upon the hasty promulgation of unproved hypotheses, or upon the hasty adoption and recommendation of methods of treatment arising from them; methods which, although destined soon to be abandoned, are remembered by sufferers and by their friends if only on account of their futility, and serve eventually as weapons against their advocates. Many things of this sort are put forward, from time to time, by men who are perfectly honest in intention, and whose chief fault is that they are intellectually uneducated. Like politicians, they are able to persuade themselves of the truth of any absurdity which it may for the moment be fashionable or profitable to believe; but, unlike politicians, they represent an important branch of science in the eyes of the public, and hence they bring discredit upon many who do not share their blunders. Rather more than 50 years ago, a suburban general practitioner, who was M.D. in days when the doctorate was less common than it is now, took it into his head that the upper surface of the tongue might be divided into a number of distinct areas, each of which was specially allied to some bodily organ, and afforded trustworthy information about its state. He published a book which he called "Glossology," and which had for its frontispiece a diagram of the tongue surface symmetrically divided into portions by various straight and curved lines. I do not think the author ever obtained a following in the profession, but he was the founder of a sort of medical sect among the public. I heard one of his patients, a not very highly educated woman, describe herself a "glopologist," and declined any other medical attendance than that of the great discoverer. This was, no doubt, an extreme example; but I have met with other little books which have scarcely rested on any better foundation, and which nevertheless are believed not to have been wholly unproductive to their authors. They may at least serve to teach us that we must prove all things, before we can hold fast what is good.

RESEARCH IN MEDICINE.

If this be so, and if, as I believe, the future of medicine will rest largely upon research, and upon research conducted in clinical laboratories with all the precision which previous training in physics is calculated to impart, it is surely a matter for much congratulation that, for the future, the energies of our hospital staff will no longer be expended upon preliminary instruction, but will be concentrated upon pursuits which have direct reference either to the prevention or recognition of disease or to the healing of the sick. On these subjects the advances of modern science have been at once considerable and encouraging; but they still leave the physician very much in the position which Newton described as his own, standing on the shores of an unexplored ocean, and playing with a pebble which the waves had washed to his feet. We know, for example, that many common diseases are merely the indications of a battle between the human subject and an invading army of animal or of vegetable organisms; but, except in the instances of intermittent fever and of diphtheria, we have no knowledge of any means by which the invaders may either be rendered harmless or may be destroyed without injury to the individual invaded. In one case of an animal invasion, typified by the several forms of intermittent fever, research has enabled us to identify the invaders, to ascertain the sources from which they proceed and the means by which they find entrance into the body, to understand and fully to utilise the curative action of the quinine by which they may be destroyed, and to wage war against the insect pests by which they are conveyed. What has been done for ordinary intermittent fever, for ague, as it is called, might no doubt be done also for other diseases communicated in a similar

manner, for yellow fever, for sleeping sickness, and perhaps for many of which the origin in animal parasites is either not yet fully ascertained, or possibly not even suspected. In the case of vegetable invasion, research has furnished us with one absolute remedy, antitoxin for diphtheria, a remedy of such potency that death is no longer to be feared when it is employed at an early stage of the malady, and that the patient to whom it has been administered soon ceases to be a source of danger to others. What has been done for diphtheria could almost certainly be done for all the other diseases of the same class, for tuberculosis, for typhus fever, for typhoid fever, for scarlet fever, for measles, for whooping cough, and for the rest; but the necessary research is either in its infancy or has not even been commenced. We have much reason to believe that other common diseases, among which I should conjecturally include most forms of insanity, are due to self-poisoning, arising from an imperfect conduct of some of the processes by which food is applied as force or is converted into tissue, or by which waste products are removed from the body; but we are still unable to indicate either the precise character of the imperfection or the organ to which its origin should be referred. Researches on such questions as these should be conducted in hospitals; and, in order that they may be conducted successfully, so as to lead to the preservation of health and life, and to the diminution of suffering, endowments and donations are just as necessary as they are for the sustentation of the patients in the wards. In speaking of the prospects of such researches among ourselves, I would ask leave to quote a sentence which I wrote in 1887, in a sketch of the progress of medicine and surgery during the first 50 years of the reign of Victoria, a sentence which was unchallengeable, and the accuracy of which has remained unchallenged. I wrote that the part played by England and by her people in the advancement of medical science had been greater, not only than that of any other country, but than that of all other countries put together; and I was constrained to add that there was no civilised country in which the labours of those who had made medicine what it was had been so slenderly encouraged by any form of public help or recognition. I hope that those who come after me will be able to repeat and justify the eulogium, and that they will be spared the necessity of repeating the reproach.

Research is very expensive, even if only by reason of the character of the apparatus which it requires; it can only be conducted to a successful issue by men of the highest capacity, who have already devoted years to the attainment of the necessary skill and knowledge; and it is never remunerative to those who follow it. We all remember Tyndall's account of the proposals made to a man of science by an American capitalist, and of the bewildered astonishment of the capitalist when he was told that the man of science was fully occupied in the pursuit of truth, and "had no time to waste in making money," that is to say, in making it for himself. The labours of Pasteur were sufficiently profitable to industrial France to pay the German war indemnity of 200,000,000 of pounds sterling; and, after having lived for many years on the modest income of a professor, he was more than content to be rewarded by a national pension of £500 a year, afterwards increased to double the amount. The cure of a sick man in a hospital is a laudable and useful act, from which the man himself and his family derive benefit, and towards the direct accomplishment of which the public are willing to contribute the obviously necessary expenses. The discovery of the means of curing him may benefit the whole human race; but towards this the public are far less willing to contribute, because they do not understand the question that is at issue. The arrangements with the University to which I have referred will release the junior members of our staff from duties which the University will undertake; will release our young physicians from the duty of teaching the elements of physiology, and our young surgeons from the duty of teaching the elements of anatomy. The change will leave them free to devote themselves to the investigation of disease, and thus to apply the opportunities of the hospital to the greatest and noblest of all uses, and to the most far-reaching in their influence for good upon mankind. In order that they may do this it is necessary that the support of the public should be extended to a work of public usefulness; and, so far as my humble voice may reach, I would urge upon all contributors to hospitals that a portion, at least, of their contributions should be so ear-marked as to be available, not merely for the support of clinical laboratories, but also for the support of those who are working in them for the advancement of science, and thus for the application of new truths to the control and the prevention of disease.

And now, Ladies and Gentlemen, that I have sufficiently wearied you with common-place remarks on the subject of medical education, it is time for me to turn to the gentlemen alone, and primarily to that section of them whose work has already borne good fruit in the shape of the prizes and marks of distinction which it has been my pleasant duty to distribute. Fifty-six years have passed over my head since I first occupied the position which to-day is theirs; but the intervening time has not, I hope, diminished either my power of sympathising with their success, or the cordiality with which I am able to offer them my congratulations on what they have achieved. It is no longer my privilege to take any share in the great work of endeavouring to impart to students the knowledge of the past, and thus to aid in preparing them for building up the knowledge of the future; and, so far, I can only rejoice in my certainty of the fitness and the earnestness of those upon whom my small portion of that work has now devolved. But, on such an occasion as this, I am reminded of Kinglake's pathetic description of the riderless chargers who sought to align themselves with the still advancing survivors of the Light Brigade at Balaclava. I have been thrown out of my original position by a power greater than that of a Russian battery, by the hand of Time; but, like the charger, I feel to-day that I am still a cavalry horse, and I would fain take my place with old friends and colleagues, and share not only in the triumphs of those who win, but also in the disappointments of those who have deserved to win, but who have fallen short of the wished-for goal. On the prize-winners I would urge but this, that they should regard their prizes as hostages to Fortune, and should determine, in the words of a very solemn ritual, to lead the rest of their lives according to this beginning. To the competitors who have failed to win, I would say that such failure is far more honourable and more creditable than to abstain from trying, and that they cannot even fail without being taught and strengthened by the effort to succeed. The Preacher has told us, moreover, how often the race is not to the swift, nor the battle to the strong, neither yet bread to the wise, nor yet riches to men of understanding nor yet favour to men of skill, but time and chance happeneth to them all. Finally, to winners and losers alike, can any better counsel be given than that of Thackeray, written 60 years ago, and still perennial in its applications:—

> "Who misses or who wins the prize,
> Go, lose or conquer as you can;
> But if you fail, or if you rise,
> Be each, pray God, a gentleman."

An Introductory Address
ON
EFFICIENCY.

Delivered at the Opening of the Winter Session at Charing Cross Hospital on Oct. 2nd, 1905,

BY SIR JAMES CRICHTON-BROWNE, M.D. EDIN., LL.D. ST. AND., F.R.S. LOND. & EDIN.

GENTLEMEN,—Having handed the prizes to those who have won them it becomes my pleasant duty to congratulate prize-winners and prize-losers alike, for I am confident that those who have this afternoon received the guerdon of their labours are but the first rank of a compact phalanx of Charing Cross students all steadily pressing forward to that best of prizes, honourable success in an arduous but useful career. The prize-winners are, of course, the primary consideration of the hour and you have, by your applause, given them no grudging triumph and have shown that in your judgment they have but got their deserts. No words of mine can add to the gratification they feel and are entitled to feel in the consciousness of merit publicly acknowledged. Were there in the breast of each of them that window of which

we have heard so much we should see that their hearts are stirred within them by honest pride. They are enjoying a choice and rare felicity, for the first squeeze of the grapes is ever the sweetest, and prizes rather pall on one as they accumulate and time rolls on. But the prize-losers, not less than the prize-winners, have their felicities and I have no commiseration to bestow on them. If they have taken no part in the contest they are but reserving themselves for future efforts; if they were *proxime accessit* they have, after a moment's disappointment, realised that it is better to have striven and lost than never to have striven at all and have accorded generous congratulations to the successful competitors. We medical men—and I include in that all here present—for the youngest neophyte in a medical school almost immediately imbibes the medical spirit,—we medical men are at once terrible sceptics and devout believers, iconoclasts and hero-worshippers. We test all things and are hard to convince, but being convinced we hold with tenacity to our faith; we love to break down a graven image or expose a quack, but we yield unstinted respect to genuine worth and straightforward achievement, and therefore it is that we all to-day, prize-losers included, pay our tribute of praise to the heroes of the hour, the prize-winners, who have given proof of diligence and of solid attainments, and to whom we look to support hereafter the reputation of this school, which is, I assume, precious to all of you. For every medical student should be fully persuaded that his own particular school is the best in existence and when he has thoroughly convinced himself of that, then it is for him the best school that could possibly be provided. I should be surprised to learn that there is any Charing Cross student who is in the least degree dubious that this hospital and school are *facile princeps*.

It is not for me to appraise the value of any medical school or to draw comparisons—although as an outsider who has never been connected with any metropolitan school I might do so impartially—but this I may say without invidiousness, that the Charing Cross Medical School has certain distinctive features which are of advantage to it. Charing Cross may almost be regarded as the vital knot of the empire. In it decussate paths, afferent and efferent, that run through Great Britain and Greater Britain and, indeed, round the world. Through it almost every civilised human being is destined at some period of existence to pass. At it, if anywhere, you will stumble upon your long lost brother. Close to it are gathered the seats of Government and were it pithed, that is to say, in the possession of an enemy, imperial respiration would be suspended. If there is a hub in the universe I think we are justified in saying, "It is here! It is here!" And the hospital located at Charing Cross shares in some degree in its imperial and world-wide relations. It receives patients who have come from all quarters of the globe to be taken ill or suffer accidents here and is better known to colonials and foreigners than any other London hospital, while the medical school connected with it has in a special sense a cosmopolitan character. It sends forth its *alumni* to all the corners of the earth, but many other medical schools do the same, but more than that it is identified with two names that no local monument is adequate to commemorate but that are inscribed on the history of the world at large. David Livingstone was a pupil here and Sir Patrick Manson is at present a teacher. The lonely pioneer who, sustained by piety and with the magic wand of the healing art in his hand, first let in the light that is now shining so brightly in the depths of the great Dark Continent (for did not the *savants* of the British Association for the Advancement of Science a fortnight ago visit his island in the waters of the resounding Zambesi?), that lonely pioneer is revered wherever human goodness and greatness are appreciated and is, I suppose, the only student of a London medical school to whom Westminster Abbey has opened its portals. The modest medical man who while in practice in China by a flash of genius opened up to us an entirely new conception of the method of propagation of certain parasitic diseases, and who by his own discoveries and by the discoveries which he has instigated in others has disclosed to us the means of preventing the most catholic and fatal of human maladies, which in India alone is still responsible for from four to five million deaths per annum, that modest medical man will be remembered by posterity as a benefactor of his species when most of the great military pugilists are forgotten. His seminal idea is charged with far-reaching possibilities. The practical application of the knowledge which he has given us must result in an incalculable saving of life and the Charing Cross Medical School is fortunate in having him as its lecturer on tropical medicine. But the Charing Cross Medical School is fortunate, I think, not merely in respect of this one lectureship but in respect of its whole staff. Again, I must abstain from comparisons, but I feel I may safely say that its teaching body is of the best and that the school is well manned in every department. At the top of the list I find the name of my old and valued friend, Sir Joseph Fayrer, who did not shrink from becoming a medical student again but took his place on the benches amongst the youngest of us in the University of Edinburgh when he returned covered with renown from the defence of Lucknow, and whose work, like Sir Patrick Manson's, has been of imperial and world-wide complexion. And looking down the list I come upon another of those distinctive features to which I have alluded as advantageous to the Charing Cross Medical School and that is the inclusion in the staff of a considerable Scottish element. With a wise eclecticism that is not universal Charing Cross has availed itself of the best ability it could find, irrespectively of its place of origin, and without overloading itself with northern immigrants has introduced into its own rich and fruity Anglican growth a moderate infusion of the perhaps rawer but potent spirit of Caledonia, the result being a judicious and inimitable blend.

Institutions not less than individuals are swayed and fashioned by their environment and it is perhaps to the intense modernity and ceaseless metabolism of its surroundings that must be traced what I regard as another distinctive feature of this school, its up-to-dateness and vigorous vitality. Every specialty into which medicine and surgery have in these latter days branched out—down to that of Röntgen—is here represented; loitering is not allowed, earnest activity prevails. The school does not command the large resources of some others but it makes the best of what it has. It has not hidden its talent in the earth but has put it out to beneficent usury. If I had to sum up the school in one word, I would say that it is efficient, and no higher praise can be bestowed upon it.

THE NATIONAL PHYSIQUE.

Now we have heard a good deal about efficiency of late and are likely to hear more. An uneasy misgiving has taken possession of the public mind that the masses of our people are not just as spruce and spry as they ought to be. Words of warning as to the physical deterioration that is going on in our big towns uttered by a member of your staff, Mr. James Cantlie, 20 years ago and treated then with neglect or ridicule are now being taken seriously to heart. Royal Commissions and Departmental Committees have inquired and reported, debates have taken place in both Houses of Parliament, public meetings have been held, new leagues and associations have been formed, newspaper discussions have gone on *ad longum*, and all with reference to the national physique. And the outcome of it all, so far, is that while it is still a moot question whether, as a race, we are degenerating or regenerating or merely standing still—there are defenders of each hypothesis—it is indubitable that there is a deplorable amount of deterioration amongst us and that inefficiency abounds. We have on our hands hordes of under-grown, under-fed, blemished, diseased, debilitated men, women, and children—you see samples of them in your out-patients' department daily—who are industrially and socially inefficient and many of our public institutions are as incompetent as the stenosed valves of a damaged heart. Our educational machinery is inefficient or we should not have so much ignorance, stupidity, and hooliganism amongst us; our economic system is inefficient or we should not have these crowds of unemployed persons and of starving school-children and this desertion of the land by the people; our municipal administration is inefficient or we should not have the shocking housing conditions that disgrace our towns; our army is inefficient or we should not have the Commander-in-Chief telling us so. Inefficiency is widespread and disastrous in its effects, but the encouraging fact is that it is at length recognised, that the dangers attending it are perceived and that in many directions measures to insure efficiency are being adopted. And this more healthy and hopeful state of affairs that is dawning on us must, I think, be attributed in some measure to a great object lesson in efficiency which we have had lately. We have been watching with wonder and

admiration the efficiency of the Japanese in their struggle with Russia; we have come better than before to understand what efficiency means and amounts to and to realise that it may be attained by those who are determined to have it in a comparatively short period of time.

THE RISE OF JAPAN: COMPARATIVE CEREBRAL MORPHOLOGY.

The rise of Japan has been almost catastrophic, setting at nought our received notions of tardy uniformitarianism in ethnic evolution. A sudden upheaval has taken place through the crust of humanity. A people self-contained, long hidden from view, cut off from the operation of those agencies which we are accustomed to regard as most influential in securing the progress of mankind, has in the twinkling of an eye come to the front and taken its place amongst the most enlightened and highly civilised nations of the earth. Some internal force has been at work in producing this startling eruption, a force necessarily emanating from the brain, and as biologists we shall, I am sure, now await with lively curiosity information as to the cerebral configuration and structure of our new allies in the East. I remember receiving with some incredulity a number of years ago reports from my old pupil, Dr. W. Crochley S. Clapham, as to the large size and convolutional complexity of the brains of some Chinese pirates, captured, if I recollect aright, at the Pelew Islands, that he had examined there, for I could hardly believe that the brains of any yellow race could be in any respect equal or superior to those of Europeans. But I am now inclined to think that Dr. Clapham's observations were not, as I then supposed, exceptional, and that the yellow races may be endowed with high grade brains of great latent capabilities that only require an appropiate stimulus to be up and doing. I feel confident, indeed, that the Japanese brain will be found, when careful measurements and observations are made, to be not inferior to our own in weight in proportion to body weight, in fineness of folding, and in depth of grey matter, though doubtless with structural characters of its own, the demonstration of which would be of the utmost anthropological significance. Should this prove to be so and should the Chinese brain be found to participate in the characteristics of that of Japan then the "Yellow Peril" is not a mere fancy bogey but, in some form or other, a possible contingency.

The importance of the scientific study of comparative cerebral morphology requires only to be mentioned in order to secure for it in the Land of the Rising Sun and by the countrymen of Kitasato and Yersin the attention which it deserves, which has not been given to it here during the last quarter of a century while we have been absorbed in cerebral histology and in the localisation of sensory and motor functions in the higher nerve centres. Perhaps at this moment in the Charing Cross Hospital of Tokio some youthful Huxley is sharpening his weapons for this enterprise, which when perserveringly carried out can scarcely fail to prove of "great pith and moment." But while still without precise information as to the constitution and differentia of the Japanese brain which might explain the rapid emergence of the race from obscurity into conspicuous greatness and its remarkable efficiency we are not without clear insight into the mental and moral qualities which have contributed to that result signalising the brain integral of which we directly know nothing. We perceive that the Japanese are gifted with a power of rapid and discriminative mental assimilation which enables them to select, to appropriate, and to make part of themselves the useful ideas brought to them by the life-stream of the world. We see that like the accomplished chess player they can perspicuously anticipate events presage the afterthought of their opponent, and provide for remote combinations. We note that they associate with genuine artistic perceptions and feelings inhibitory control over emotional disturbance to a singular degree. And we recognise that above all they are inspired by a lofty patriotism and devotion to duty that involve the subordination of the individual interest to the common good. They are by instinct and discipline brought to live not for themselves but for others, to realise profoundly the obligations they owe to the collective group of which they form a part, and to be ready without murmur to lay down their lives for the cause they have espoused.

NECESSITY OF ALTRUISM.

I refer particularly to this altruistic trait of the Japanese character because it is one which medical men are bound to cultivate if they are to prevail in their campaign. They, too, if they are to be worthy of their high calling, must sink the individual, be ever ready to undergo toil, to face hardship, to spend and be spent, and to sacrifice their lives if need be in their endeavours to save the lives of others, either in the heat and blaze of battle like your David Llewellyn or in the chill obscurity of the pestilence that walketh in darkness, as many an unknown medical man does to-day. And in reviewing the history of our profession, I think that its members have succeeded more, perhaps, than have those of other vocations in laying aside that individualism into which it is said that our Western civilisation threatens to degenerate and to the subjugation of which the successes of the Japanese have been ascribed. But individualism is of two kinds, good and bad, the one to be trodden down, the other to be cultivated. There is the individualism that consists in self-sufficiency, sensual indulgence, and personal aggrandisement; and there is the individualism that finds its subsistence and finest expression in the service of others and that jealously fosters every personal faculty that may be of use in that service. The one is purely egotistic, the other is a reflex of tender and noble feeling, or, as Tennyson has it:—

> "... If *I* be dear to some one else,
> Then I should be to myself more dear.
> Shall I not take care of all that I think,
> Yea, even of wretched meat and drink,
> If I be dear,
> If I be dear to some one else."

It is this kind of individualism that I would enjoin upon you—a scrupulous regard to your own wellbeing, not hedonistically—not only because you are dear to some one else, as you probably are or will be, for ours is not a celibate order—but because you are dear to your profession and owe her an active allegiance. She is an exacting mistress and if you are to fulfil her requirements you must assiduously develop all your corporeal and mental powers. If you are to be efficient medical men you must improve your personal efficiency, and see to it that you are physically efficient, intellectually efficient, and morally efficient too.

THE MEDICAL STUDENT AND ATHLETICS.

The first bit of advice I would venture to offer to you who are entering upon or continuing your studies here is to buckle to your work without an hour's delay—advice founded not on any fear that you will by postponing your work fall into indolent habits but on the scientific ground that this is the season of the year in which you can most profitably employ your brains. Extensive dynamometric experiments have shown that the energy of attention steadily increases from October onwards, is abundant until March, and then diminishes, and it is a curious fact that they who at some remote period fixed the medical curriculum somehow arranged it in the best possible way, for the curve of psychic activity, as it is called, rises from October to December, when it attains its maximum, remains high until March, and then falls, reaching its low-water mark in July. He, therefore, who would avail himself of that tide in the affairs of brain which, taken at the flood, leads on to fortune in the examination hall, should in this very month apply himself to his books and continue to grapple with them until March next, when he may properly relax his hold. A short vacation following March, a long one preceding October, are the rest-periods prescribed by experimental psychology. But while the curve of psychic activity pursues one course, that of physical activity follows another, and an entirely different one. The power of attention notably diminishes during the late spring and summer months but muscular power increases in a remarkable way up to June or July. The higher atmospheric temperature then, seems to depress the nervous functions engaged in attention and to stimulate muscular energy, and this laboratory observation, as I need scarcely say, points unmistakeably to cricket. All the year round, of course, a certain amount of muscular exercise is necessary for the medical student and the problem is in his case not so much to restrict his addiction to it as to procure him enough of it, especially in medical schools in the middle of great cities. He is not likely, on the large scale at any rate, to fall into athletic debauchery. At every stage in his journey conspicuous sign-boards, erected by the Conjoint Board, warn him off dangerous declivities and exhort him to keep on the level path if he is to complete his track in five years. A few students who have not shaken off the wildly exaggerated reverence for athletics

and games which some public schools engender, or have been dazzled by the brilliant halo that the press and a debased popular enthusiasm shed around them, may allow them to distract them from their studies, to distort their views of life, to induce "beefiness," and to weaken their intellects, but the great majority will keep them in their proper place and use without abusing them. You will in the course of your studies very soon learn for yourselves the physiological requirements of the body as regards muscular exercise, the essential part that that plays in the furtherance of many functions and in the maintenance of health and the different utilities of different kinds of it, and you will, I doubt not, judiciously apply the knowledge thus acquired in the gymnasium, on the river, on the road, or in the playfield, according to your predilections or your notions of what is wanted. I need not descant on all that, but I should like to remind you that athletics and sports have collateral advantages of no mean importance, not always sufficiently considered. They do recuperate the overworked brain and refresh it when it is jaded, and they do—contrary to what might be supposed—militate against mental vacuity, for they supply to those who follow them a wealth of interesting topics, of conversations. What brilliant discussions are constantly going on at St. Andrews on subtleties of golf; how inexhaustible to its votaries are the technicalities of football. Then athletics and sport assuredly afford a vent for energies that might find less creditable outlets and provide motives against errors and vices which weaken and corrupt, while they keep alive a high standard of honour and a wholesome sentiment of *camaraderie* opposed to the narrow individualism which I have denounced, for in athletics and sports a man has to earn fame not merely for himself but for his team or his class, or his college or his school. Athletics and sports should, I think, form a subordinate but recognised part of a medical curriculum and should be more particularly encouraged in those spring and summer months when they can be carried on in the open air, and when the constitutional demand for muscular exercise is most urgent.

[Sir James Crichton-Browne here urged the advantages of students working systematically without hurry-scurry, the importance of leisurely eating with ample mastication and insalivation, and the necessity of sufficient sleep. He referred to the observations on nutrition made at Cambridge in 1901 in consequence of the representations of Mr. Horace Fletcher, to the experiments on similar questions made at Yale University under Professor Chittenden, and to the views of Dr. Theodore D. Acland on the hours of sleep. He then continued:]

AMOUNT OF SLEEP REQUIRED.

Insomnia is, I should say, one of the chief curses of the medical man, the approach to which should be jealously guarded. The broken rest which is inevitable during his active professional work caused by night calls or anxiety is very apt to run into chronic insomnia, and it is highly desirable that he should enter on that work undamaged by nocturnal vigils and with a rooted custom of periodic somnolence. The medical student, therefore, should have regularly nine hours sleep in the 24. The allowance for the adult man is eight hours, but during the growth period more than that is required and an amount of sleep which in maturity might prove sufficient would during adolescence be wholly inadequate. No doubt the sleep requirement varies in different men of different temperaments and of different occupations and some men succeed by practice in greatly reducing their quantum without apparent injury. Insomnia when severe and protracted induces cerebral exhaustion or irritation or a resort to remedies which are ultimately more pernicious in their effects than the disorder which they are taken to relieve. The intense distress it causes and the stimulants or hypnotics of which we have now so many of subtle and insidious quality at our command indiscreetly taken to counteract it not rarely end in complete overthrow of the mind.

THE MEDICAL STUDENT AND ALCOHOL.

The mention of stimulants suggests to me that I may again in my monitorial capacity venture to say a word about alcohol in connexion with efficiency. I do not for one moment suppose that in speaking to you there could be any propriety in referring to alcohol in its ethical relations. The libulous medical student is a creature of the past. If drinking songs are still heard at your friendly gatherings they are but old ballads commemorative of a kind of conviviality that is no more. The medical student of the period is not the midnight reveller described by novelists of a bygone generation, but a staid and self-respecting gentleman, effervescent at times, as youth always is, but never rowdy. It is not against the vulgar abuse of alcohol that he has to be warned; of the evils of that he is cognisant in an especial degree. No; it is to the alleged use of alcohol that his attention should be drawn, to the question which still agitates our profession whether alcohol is a wholesome article of diet, and in moderation harmless to the brain-worker. Now I am not going to enter on that large and very thorny question here further than to say that I am not of those who denounce alcohol up hill and down dale and give vent to well-meant but sometimes extravagant diatribes against it, an admission which will add weight to my opinion that the medical student had best avoid alcohol altogether. Whatever our views about alcohol at large may be, I think we are all agreed that in the growth period, where that is normal, it is not wanted, and that at epochs of rapid cerebral evolution it is apt to prove deleterious. It is during adolescence that the taste for alcohol declares itself. In the schoolboy it does not exist, and if he indulges in alcohol at all it is from bravado or in mimicry. It is when the emotional life is opening up, when self-consciousness grows keen, when the craving for social enlargement is experienced that the exhilaration and confidence and expansive friendliness that alcohol yields are appreciated and found helpful. Then it is when so many habits are formed that a habit of some degree of dependence on alcohol may be contracted, and it is a noteworthy fact that in nearly 90 per cent. of cases of confirmed inebriety the addiction to drink began between 15 and 25 years of age. That is the danger period and little apprehension need be felt as to the future career as regards sobriety of any man who has voluntarily abstained from alcohol till 25 or even 21 years of age. It is much to be wished that there should grow up one of those conventional understandings which are almost more binding than legal enactments, that it is "bad form" for a youth to indulge in alcohol till he has attained his majority. But beyond the general impulse to alcoholic excitation and other strong sensations characteristic of that spell of life when equilibrium is disturbed, during the transition from boyhood to manhood, the medical student has then a special temptation to resort to alcohol in the calls made upon him for severe and sometimes over-straining mental exertion. He has a heavy load to carry against time and up some very steep hills, and the temporary support and relief which alcohol gives in such circumstances are grateful and not unlikely to establish a habit. For alcohol in moderation does afford temporary support and relief in such circumstances and no physiological refinements can get rid of the fact, and the judicious policy is, it seems to me, not to dispute it but to insist on the other fact that the support and relief obtained are too dearly purchased. Alcohol, let the fanatics say what they may, is a cerebral stimulant and has perhaps played no unimportant part in human progress, but it is a stimulant that is hazardous when the trophic processes in the cerebrum are already accelerated in its natural maturation. It is a whip to the brain and quickens its paces for a time, but it often leaves wheals and inordinate fatigue behind it, and so brainworkers, in early life at any rate, should eschew it or only partake of it in the most guarded manner. It is a treacherous familiar that strengthens its hold on its victim, sedulously aggravating the exhaustion that it in the first instance alleviates, and setting up a state of pathological unrest that it is alone adequate to soothe. It is upon fine and susceptible natures that its hurtful influence is most strongly exerted and thus it is that brainworkers often succumb to it. Having regard to the partial and transient nature of the assistance which it affords and the risks attending its employment it seems to me that the medical student, aiming at efficiency, does well to place it in all its guises, from the homely stout to the etherial champagne, on his *index expurgatorius*.

I have been bold enough to submit to you a few desultory hints as to habits of life which may, perhaps, contribute to your professional efficiency and I could go on wearying you with many more of a like kind but I shall only add that whatever the physical and intellectual efficiency to which you may attain may be they will be of small avail if not united with that moral efficiency which gives them stability and completeness. High principle and divine pity are not less necessary than skill and learning to success in medicine, which is not merely a bread-earning profession

but a ministry of science. Each one of you about to join it should feel that he is taking upon himself weighty obligations and is entering an honourable fraternity, fealty to which includes good deeds, good manners, and good conduct. He should realise, indeed, that in a humble walk and in modern apparel he is bound to be as one of the Knights of Arthur's Table Round:

> "Who reverenced his conscience as his king;
> Whose glory was, redressing human wrong;
> Who spake no slander, no, nor listen'd to it;
> Who loved one only, and who clave to her."

It is the sympathy and generosity of our profession that have gained for it, if not the material recompense to which it is entitled, yet the high place which it holds in public estimation. You see these daily displayed in a great hospital like this, but happily they are not confined to public institutions but are bounteously bestowed in private life.

An Introductory Address
ON
METHOD IN MEDICINE.

Delivered at the Middlesex Hospital on Oct. 2nd, 1905,

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GENTLEMEN,—The prologue to a play is now almost an anachronism, but none the less I stand before you to deliver the prologue to the serious drama of a new session's work, for tradition counts for something even in a progressive medical school, and tradition demands an introductory address. It is my first privilege to extend a greeting of welcome on behalf of the council of our school and of my colleagues to those who are to-day entering upon their studies, congratulating them at the same time upon their choice of a profession and on their selection of our school, the past history of which they would do well, as Middlesex men, to study, since from its foundation to the present time it has owned names writ large in the history of the progress and advance of medicine. Further, I have to offer the hand of fellowship to our students who are back to resume their studies and to those of our former students who have come on this day to show the interest which they still retain in their old school. It is this spirit of devotion to their *alma mater* which in the aggregate constitutes that *esprit de corps* which is one of the most encouraging auguries for the future of any school. The past year has been, as no doubt nearly all here present are aware, one of great stress and uncertainty for many of the London medical schools. At one time it seemed as if great changes were imminent and that concentration of the teaching of the earlier subjects of the medical curriculum in certain centres would be effected, leaving the hospitals as centres for clinical and pathological instruction only. Although in many respects such a condition is desirable it is only feasible if endowments are forthcoming to enable the University of London to coördinate and effectively control the teaching in its constituent units.

It is, perhaps, one of the greatest reproaches to this great city, with its unrivalled opportunities for the study of disease, that it has not even yet realised the enormous possibilities of what should be, and no doubt one day will be, the greatest university in the world. All forms of higher education require endowment; indeed, education can never be self-supporting if it is to be effective. London, however, seems too vast to develop that corporate spirit and pride in its possibilities which provincial towns seem always to possess and to which appeal is rarely made in vain. Some day, perhaps, the soul of London may be aroused and events move forward. Fortunately in the case of our own school, owing to the confidence placed in its work by the governing body of the hospital of which we, as Middlesex men, are grateful and proud, we are still enabled to continue as a school for the complete curriculum on a firm basis. It is also another of my privileges to-day to point to the alterations and improvements which have been made since last year. Every year since I can remember there has been something new to point to, which, I take it, is an evidence of the determination of the executive of the hospital to keep in the forefront of progress. This year, if I may say so, an almost distressing sense of newness pervades the whole place—new floors, new walls, new paint, new patients, and, lastly, new cancer research laboratories. This important part of the work of this hospital has long been cramped for want of space, but now, as I am sure all who see them will agree, we possess a compact and workmanlike series of laboratories which reflect great credit upon the director, Dr. W. S. Lazarus-Barlow. He has the good wishes of every Middlesex man for success in the arduous task he has in hand, for it is, perhaps, one of our dearest wishes that that relief for which suffering humanity awaits shall emanate from our hospital.

SCOPE AND AIMS OF METHOD.

So far my task has not been onerous, but custom has decreed that on this occasion he who has the honour of addressing you shall either occupy himself in giving some general advice or in discussing some medical subject of more or less general interest. Now I am not fond of advice—even good advice—for it is usually unedifying, frequently unpalatable, especially when it is gratuitous and unsolicited, its one virtue being the satisfaction it affords the giver. Holding such views I found myself compelled to find a subject upon which I could discourse without being didactic and without offering advice. I therefore propose to offer a few suggestions, mere *obiter dicta*, on a subject in which I have long been interested—namely, method in medicine. Perhaps the two most valuable attributes of mind a student of medicine can possess are those of method and enthusiasm, for method will afford him both range and perspective while enthusiasm will sustain him and spur him on to advance. Zeal or enthusiasm comes soon or late to most men, for medicine with its attendant sciences offers so wide a field that there are but few who do not develop at least an interest in some phase or other of their work. On the other hand, I am convinced that both student and practitioner have in most cases much to learn of the value of method. I should like at the outset, however, to differentiate between system and method.

System implies limitations, something confined or stereotyped. Too often in the past system has delayed and even prevented progress, whereas method (used in its literal sense of "a means of transit or advance") is elastic and permits of readjustment, rearrangement, and modification. I may, perhaps, illustrate this distinction by comparing system to note-keeping in a book, method to one of the newer card-index files for the same purpose. In the former no rearrangement can be effected without destroying the book; in the latter it is always possible. I would therefore define method for my purpose as the orderly acquisition of facts and the adoption of the critical attitude of mind in examining and marshalling those facts and in deducing conclusions from them. In this sense, as Sir William Hamilton has said, "all method is a rational progress, a progress towards an end."

Science has been tersely defined as measurement, but it would to my mind be more correct to regard it as the application of method to observation and record. It is this very application which has raised medicine to the level of a science and which will eventually make it an exact science. Perhaps the greatest master of method was Lord Bacon, whose marvellously analytical and methodical mind having reviewed the whole extent of the knowledge of his own time as well as that of the ancients evolved a system of philosophy and taught a method—the inductive or experimental method—to which science owes her greatest advances. It is not too much to say that the Baconian philosophy rendered possible the work of Harvey and his successors in rational and experimental medicine, as well as the later advances in physical and chemical science.

Method as applied to medicine may be considered, first as it affects teaching and study, secondly in regard to research in medical subjects, and thirdly, as it concerns the actual practice of medicine.

METHOD IN TEACHING AND STUDY.

Teaching and study may be fitly considered together, since teaching should be simply the control, direction, and guidance of study. It has been the application of method to teaching which is responsible for the great changes which within recent years have occurred in regard to almost all grades of education, notably in regard to instruction in

elementary schools, in fact, which has substituted the science of education for the older empiric system of pedagogy. From the very nature of the science of medicine the educational course preparatory to its practice is bound to be practical and from the time of the establishment of medical schools it has followed a more or less definite sequence or order. Nowadays the existence of boards of studies or their equivalents at the various universities and examining bodies, and the publication by them of schedules for the guidance of both teacher and student, have done much to render medical education practical, methodical, and utilitarian in character. So far, it seems to me, it proceeds on correct lines but it is essential that both student and teacher should acquire a grasp of the whole scheme of medical education. The student is too apt to have his horizon limited by his next examination and it is not until he returns for post-graduate instruction that he realises the utilitarian aspects of his studies, which is one among many reasons in favour of post-graduate courses, while the teacher has perhaps a tendency to exaggerate the importance of his own particular subject, especially if he be a good teacher. If conscientiously pursued I believe a medical training is one of the finest forms of education, for from the very commencement it requires the education and refinement of the senses, particularly those of sight, hearing, and touch, and the formation of sound and logical judgments from the information obtained by them. The sense organs have been aptly termed the portals of knowledge, since it is through them, and them only, so far as we know, that we acquire our information of our surroundings and it is therefore our prime duty as medical men to strive to educate those senses to their utmost. The chief aims and object of the earlier subjects in the medical curriculum, such as physics, chemistry, biology, anatomy, and physiology, are to inculcate the importance of exactness in observation, of care and method in recording observations, and thus at once to educate the senses and afford a logical and scientific basis on which to construct the superstructure of actual medical knowledge. He who observes the most is bound to be the best physician, provided his experience is ample and his judgments sound; moreover, most of our mistakes are due less to ignorance or wrong observation than to lack of observation. Method in observation is perhaps the greatest safeguard against such omissions. "To go about the world with the eyes open is to conquer the world," says one of Seton Merriman's characters in his novel. "In Kedar's Tents"—a sanguine maxim, perhaps, but a useful one. Voltaire in his story of "Zadig" shows how much a trained and methodical observer can notice that escapes the casual glance and what important deductions can be thus made; indeed, both Professor Huxley and Sir Lauder Brunton have referred to this process of observation and inference as "the method of Zadig." I need perhaps only make passing reference to those brilliant detective stories written by a member of our own profession, Sir A. Conan Doyle, with, I believe, a well-known surgeon as prototype of the chief character Sherlock Holmes. At any rate, I can commend them to all medical students who have not yet read them. I think in these days of mechanical means of diagnosis we are apt to lose some of the refinement of observation of the physicians of a bygone day and I should like to see held at least weekly throughout the whole course of a student's career *observation classes* where he might be taught to observe minutely and rapidly and to observe for himself, while in the later years of study these might give place to, or develop into, *diagnosis classes* where the whole facts observed in regard to cases should be elicited and placed in their true order of importance, so that a true perspective of the value of each fact and of each means of diagnosis employed might be taught. This seems to me particularly to be desired at the present time owing to the advances which are being made in chemical, mechanical, and microscopical means of diagnosis, since there seems a danger lest the student should lose sight of the importance of the actual study of the patient and expect his diagnosis worked out for him by the bacteriologist, hæmatologist, chemist, or radiographer, for whom he becomes, as it were, the collecting agent. While the information supplied by them is invaluable and, indeed, almost indispensable, yet it should be used at the bedside in conjunction with the information obtained by direct observation. For the same reason I regret the decline of the old system of consultation in the wards, for I think we are apt to forget that disease is a condition and not an entity, a point very ably enforced by Professor T. Clifford Allbutt in his introductory address here some years ago. In so saying I do not wish to minimise the importance of bacteriological, chemical, and other means of diagnosis, for I realise that they are of the utmost value and I also realise that in the future we may derive our means of treatment more and more from the laboratory of the bacteriologist or the physiological chemist, but what I do wish to insist on is the importance of studying the patient and his condition as well. By such means we can obtain the most valuable information upon which to build prognosis and those details of treatment which make for comfort of the patient as well as cure, for temperament, habit, diathesis, or whatever name we like to apply to the subtle differences in personality, counts for much in practical medicine.

It is a useful occupation to dip occasionally for an odd half hour or so into the pages of some of the medical classics of a former generation, such as the text-books of Sir Thomas Watson and of Graves or the interesting clinical lectures of Trousseau. Apart from the charm of the style in which they are written they afford evidence of minuteness and method in observation, and there is much to be learnt from them. Even their mistakes, and they are surprisingly few, are instructive. In regard to this part of my subject I would suggest that a little method in reading and in note-taking is also of very great value. Much time is apt to be wasted in indiscriminate reading. It is not the actual amount read which is of value, but that part which we understand and assimilate into our sum of experience. In this connexion I should like to quote certain maxims of my favourite philosopher, Lord Bacon, as translated and paraphrased by Sir Thomas Watson, even though there is a savour of advice about them. "Be not like the empiric ant who collects from every side indiscriminately for present wants, nor speculative like the spider who seeking no materials abroad, spins his web of sophistry from the recesses of his inner being; but imitate rather the praiseworthy bee, who gathering crude honey from various flowers stores it up within and by his own operation matures and perfects it for future use." This may not be the latest natural history but it is certainly excellent philosophy.

METHOD IN RESEARCH.

To speak of method, as applied to research, the second division of my subject, is almost tautological, since method is the very basis and essential of all research. It may safely be said that practically no great principle has been evolved without persistent, patient, and methodical investigation, with stages often of apparently fruitless effort. Indeed, the study of almost any piece of great research is one of the best means of education in scientific method and one which, I believe, is extensively adopted in some American universities where students are encouraged to read some of the most important work in the original papers. Few can read the history of the discovery of the anæsthetic effects of chloroform by Sir James Simpson without great admiration for his persistence in spite of failures. The brilliantly methodical researches of Claude Bernard and the ingenuity with which he prosecuted them let in light into many of the dark places of physiology. The years of patient research into the processes of fermentation by Pasteur paved the way for the beneficent discoveries of Lister, themselves again the result of patient and persistent labour in face of failures and opposition. The illuminating work of Ehrlich and his pupils on antitoxins and the recent work of A. E. Wright on opsonins are examples of the value of method, for in both cases their results have been brought to an almost mathematical exactitude. Indeed, of all the medical sciences there is perhaps none in which exact attention to detail and method are more necessary than in bacteriology. There is a tendency nowadays to limit the use of the word research to experimental investigations, and it is becoming more and more difficult to carry on research apart from laboratory accommodation. None the less it should not be forgotten that there is such a thing as clinical research in the literal sense and that here is a field open to all. I feel sure that the orderly and careful observation of groups of cases, especially those showing variations from recognised types, would result in advance in our knowledge, and that if each medical man were to keep records of anomalous cases it might help eventually in the elucidation of some difficult problems: just as Sir William Gull and Dr. Ord separated myxœdema from the diseases with which it was

previously wrongly grouped and as Pierre Marie separated acromegaly and Sir James Paget osteitis deformans. Moreover, the history of research shows how the true investigator's spirit can overcome obstacles apparently almost insurmountable—e.g., we find Jenner in a country village pursuing his researches in vaccination for 16 years before the results were applied to man; Beaumont, an army surgeon, in a wild outpost territory in Michigan, at least 1000 miles from a university, working out with singular persistence the physiology of gastric digestion; and Sir James Paget, while a first year's student at St. Bartholomew's Hospital, discovering the parasitic worm trichina spiralis in human muscle, and since there was no microscope at the hospital then obliged to get introductions to a botanist, Robert Brown, the only man he could find possessing one, in order to confirm his discovery. I cannot do better than quote in his own words the history of his discovery: "I may justly ascribe it to the habit of 'looking out' and wishing to find new things which I acquired in my previous studies of botany. All the men in the dissecting rooms, teachers included, saw the little specks in the muscles but I believe that I alone 'looked at' them and observed them. No one trained in natural history could have failed to do so." I have quoted this because it so well illustrates one of the chief points I wish to emphasise—the importance of "observing" instead of merely "seeing." We are most of us too ready to acquiesce in or to take for granted what is out of the common, whereas the spirit of the true investigator is to inquire into and to explain even the apparently obvious. The canons of orthodoxy are in very few cases so firmly established that new facts may not disturb them. "Prove all things" is an excellent motto in research, wherefore in investigations of the greatest importance there is often a great deal of work which may have apparently but little that is startling or novel about it. Goethe's couplet in the introduction to *Faust*—

> "Was glänzt ist für den Augenblick geboren,
> Das Echte bleibt der Nachwelt unverloren"—

is as true of medicine as of literature. It is too often assumed that that intangible, indefinable attribute of certain minds which we call genius is superior to method, being rather a matter of inspiration or intuition, but in science, at any rate, this is certainly not so. The genius is the man who brings order where chaos reigns, who, perhaps, taking the tangled threads which others have spun with tedious labour, weaves them warp and woof into the great web of established truth with unerring skill.

METHOD IN PRACTICE.

Finally, the scope of method in the practice of medicine is no less extensive. Treatment should be methodical, not a matter of routine or hazard. The first essential for treatment is of necessity diagnosis, and it should not be forgotten that diagnosis is a purely intellectual exercise and that as such there is no room for emotion or feeling, even for sympathy, since emotions above all things tend to warp judgments. In diagnosis the condition of the patient must be regarded as a problem which has to be solved. That being done, treatment becomes a matter of the selection and adjustment of such remedies and curative means as we possess to the special condition of the particular patient, due attention being paid to his history, his temperament, and his idiosyncrasies if they are known. In giving directions to the patient, or to those responsible for his care, it is wise to be explicit, methodical, and decisive. Moreover, the public are beginning to look for more than mere symptomatic relief in time of actual serious bodily affection, they expect, and they have a right to expect, advice as to their mode of life so as to retain health when it has been restored. It is our duty so to educate ourselves to be able to afford that information in a practical and practicable form adapted to their own particular needs. For this purpose a knowledge of human nature with its limitations and its weaknesses is of the greatest value; and if there is no room for the finer feelings or emotions in diagnosis it is far otherwise in treatment. Then the ready sympathy, the gentleness, the sensibility, and the sensitiveness which a medical training should, and does, tend to foster are among the most valuable qualities a medical man can possess. It is this aspect of treatment which justifies the expression of the "healing art" as applied to our work. Let us, however, discount the statements we often hear as to the nobility and altruism of the profession of medicine, remembering that it is the manner in which any work is done which ennobles it rather than its intrinsic character. Let us therefore do our duty in no spirit of maudlin sentimentality, puffed with no sense of elation from the consciousness of the beneficence of our art, but with senses acute, mind alert, and sympathies awake, do the best of which we are capable. Some day, perhaps, a poet like Kipling, with his minute observation and his power of seeing deep beneath the surface, may sing the true romance of medicine as he himself has already sung of steam and the daily miracles of honest, sincere, and strenuous effort.

> "When through the gates of stress and strain
> Comes forth the vast event,
> The simple, sheer, sufficing sane
> Result of labour spent—
> They that have wrought the end unthought
> Be neither saint nor sage,
> But men who merely did the work
> For which they drew the wage."

Abstracts
OF
INTRODUCTORY ADDRESSES, ETC.
DELIVERED AT THE
MEDICAL SCHOOLS
AT THE
Opening of the Session 1905-06.

ST. MARY'S HOSPITAL.

INTRODUCTORY ADDRESS BY WILFRED HARRIS, M.D. CANTAB., F.R.C.P. LOND.

Dr. Harris said in the course of his address:—The annual entry of medical students in London has been decreasing owing to the competition of provincial universities, while the financial strain on the London schools has become too great to bear owing to the increased cost of medical education. Two of the smaller schools—those connected with St. George's and Westminster Hospitals—have transferred their students for the earlier studies to the schools of University College and King's College, thus starting a concentration scheme, in which all the students for the preliminary and intermediate studies shall be taught at the central institute to be built at South Kensington in connexion with the University of London. The remainder of the schools are still endeavouring to maintain their individuality and some are starting separate appeals to the public for financial assistance and endowment. Now if these appeals for money are successful the cause of medical education in London will be injured. The falling entry is due partly to the difficulty experienced in obtaining a medical degree at the University of London—a difficulty brought about in part by the high standard required—but largely to the want of systematised teaching with the end in view of the attainment of this degree. Given centralisation of the teaching of the preliminary and intermediate studies at a central institute under the University of London, with the amalgamation of the large general and special hospitals for the teaching of the final studies in medicine, surgery, and pathology, then the medical degree of the University of London would be the natural goal of the student's career, his difficulties would be made easy for him, and the school of medicine of the University of London would steadily grow in size and fame. It should be recognised also how bad is the effect of the numerous forms of medical qualification now possible; one man has the right to call himself Doctor and put M.D. after his name, while another may not, though he may have passed an equally severe examination. To remedy this, and further to safeguard the interests of the public, the several different modes of qualification, as the different university degrees, diplomas of conjoint boards, and licences of societies of apothecaries, English, Scotch, and Irish, should all be swept away to make room for one State-controlled examination held at the same time at various university centres. The passing of this examination, which should be of as high a standard as possible, should be the only portal to the medical profession and should carry with it the right to the M.D. degree of the university at which the examination was held. For this examination the minimum time of study should be extended from five years to six. To attract the better class of men which will be required for this

course and examination the conditions of medical practice will have to be made more attractive by the removal of the heavy grievances which at present bear so hardly upon the majority of its members. The three most important of these reforms are: (1) the making illegal of unqualified practice and quackery; (2) the prevention of hospital abuse; and (3) the regulation of contract medical practice. For the suppression of the first an amendment of the Medical Acts is necessary to protect the public against the quack. Medical men should not be allowed to dispense medicines except in special circumstances and the out-patient departments of the hospitals should be reformed so that they shall be real consulting rooms for local practitioners and provident dispensaries, instead of competing with the local medical men for the pence of the poor. Crèches should be established in thickly populated places for the infant children of the poor, which might be under the close supervision of the hospitals; and classes should be held in the management and feeding of young children, which girls of all grades in society should have to attend, no girl being allowed to marry until she has passed a test examination in the subject.

UNIVERSITY COLLEGE, LONDON.

OPENING ADDRESS BY H. R. KENWOOD, M.B., C.M. EDIN., D.P.H., PROFESSOR OF HYGIENE AND PUBLIC HEALTH IN THE COLLEGE.

Dr. Kenwood said:—Let me first of all discharge the pleasant duty of extending a cordial welcome to those of you who are about to commence your medical studies at University College, and in doing so I would also express the sincere wish that your work may prove congenial and profitable to the fullest degree. You are to be congratulated upon your choice of a career, for you could not have selected a more useful and honourable one. But it is a career which you must enter upon in a serious spirit, as it will make great demands upon your energies, both physical and mental, and it is one which requires a never-ending study. I would exhort you to conduct all your studies here with an eye to a goal which is *not an examination*. An examination is a regrettable necessity, but it is only a milestone which must be reached and passed in the path which leads to your one supreme objective—namely, the attainment of the knowledge which will best fit you for your great work. If that goal is kept in view the milestones will be easily passed and your success in after-life will be assured. The object of medicine is to prevent or to cure disease and the medicine of the future will be increasingly exercised in the direction of keeping patients in health rather than of prescribing for them in sickness. For this and other reasons a medical man must be well informed upon matters affecting personal and public health. Public health problems are now discussed with intelligence by the man in the street and the last one who can afford to ignore every opportunity of keeping *au courant* with them is the medical man. He owes it to the community to advance the general health, and he can best promote this useful mission by helping to disseminate the knowledge of which the masses stand so much in need before so many necessary advances can be made. Even nowadays he is frequently consulted with reference to the very latest scientific advance in public health and hygiene, and his lot in the future will be more exacting still. I would strongly emphasise the view that if a sufficiency of this knowledge is to be acquired by future practitioners it is necessary that they should take greater advantage of the facilities which already exist in the medical schools for the teaching of hygiene and public health. Opportunities for good work and fair remuneration are afforded to those who enter the public health service, and the practical application (and may be initiation) of measures designed in the interest of the public health is an attractive and beneficent work of great national importance. Imagine, if you can, a greater stimulus for work than the reflection that if by our exertions we can confer benefits upon those who live, our work will echo down the ages to the advantage of generations who have yet to live; and the aggregate of life thereby saved may equal or even exceed all the life that now is. Owing to the paucity of endowments we have not in Great Britain a sufficient number of workers engaged upon the task of research in sanitary science and there remain many fields of inquiry which when diligently cultivated will yield a rich harvest, for the devising of practical measures of public health is still hampered in many directions by the imperfections of our knowledge. Surely if there are those prepared to give their time, ability, and energies to work on problems of such national importance, those who are more favoured with this world's riches might be expected to come to their aid and make such work possible.

Since the science of public health concerns itself with healthy being and embraces everything which bears upon the nature and causation of disease, the real task of hygiene is to teach men how to live and be healthy under the conditions which social and economical interests impose and (if necessary) to devise practicable means of modifying adverse circumstances. If nowadays a thoroughly enlightened sanitarian were to emulate the example of the late Sir Benjamin Ward Richardson and put on record his conception of what ought to be in *his* model city of Hygeia, I venture to assert that a marked difference of treatment would be discernible. The late Sir Benjamin Ward Richardson's ideals related rather too exclusively to sanitation as applied more directly to sanitary environment and he paid insufficient regard to the claims of the individual. Environment counts for much, but in this country it has received in the past a disproportionate share of our consideration and administrative energy. The quantity which determines the survival of an organism is the ratio of its fitness to the strain imposed upon it by its environment, and public health policy yields the best results in the aggregate when it is directed towards increasing the fitness of the individual to withstand this strain; in other words, while sanitary improvements of dwellings and surroundings do much to better the outward circumstances of the people they can make but little amends for faulty habits of life. It certainly was essential that the individual should adopt a satisfactory standard of healthy and decent living if the Utopian death-rate of 5 per 1000 was ever to be realised even in this model city, for the attainment of sound moral and physical health demands more than is implied in the term "sanitation." The habits of self-denial and self-respect are essential. By the development of a sanitary conscience in the community, and thus by a general diminution of the favourable conditions of environment under which specific organisms thrive and by an extended use of protective agencies, we should gradually reduce, and finally wipe out, much of the communicable disease of the present day, as typhus fever has been practically exterminated from our midst during comparatively recent years.

[Dr. Kenwood here dwelt upon the modern improvement in the mortality rates from scarlet fever, enteric fever, and diphtheria and pointed out the beneficent results of bacteriology and the generally improved conditions under which the denizens of large towns are called upon to exist, continuing:]

But the fact that whereas during the past 50 years the general death-rate has fallen some 26 per cent. and some millions of lives have been saved, the infant population has not shared in this reduction even to the extent of 1 per cent. is a serious matter for reflection, and when it is considered in conjunction with the circumstance that the birth-rate has declined over 17 per cent. during the same period and that this decline during recent years has been at a greater rate than that of any other European country it becomes a matter for grave national concern. If the fall in the birth-rate of our nation is to continue, as there is little doubt that it will do, it is essential for our national vitality to curtail the heavy expenditure of infant life. Among infants in both urban and rural counties there has been a marked increase in the deaths from gastro-intestinal maladies and premature birth, and these and other influences have counteracted the benefits to the infant population of the generally improved sanitary conditions of the people and the fruits of over a quarter of a century of compulsory education. This excessive infant mortality is confined to the poorer classes and it is the result of many forces, many of which are very complex, but the main factors are: the employment away from home of those about to become mothers and of those recently confined who should be nourishing their infants, and the infants being badly cared for and ill fed while these mothers are at work, and the greater ignorance among women as to the feeding, clothing, and management of infants. This maternal ignorance and neglect offends against every law of hygiene and is responsible for the fact that approximately one out of every six children born fails to complete its first year of life. The mean rate of infant mortality during the first year of life for the past five years exceeds 200 among every 1000 births in some of our large industrial centres, and one shudders when one

contemplates what this rate would be if it were drawn out for small slum areas and not taken for the whole city, including the rich and the poor, the wise and the ignorant, the careful and the indifferent. If the share of this death-rate which is due to ignorance, indifference, and neglect could be subtracted it would nowhere exceed 100. The domestic life in our midst is not now what it was and compulsory school attendance and early female employment away from home have done away with much of the home education of the child-nurse. Much of the precious influences and associations of the family and the home seems to have been lost. This is deplorable, for a child who has never known home life and motherly solicitude in their fulness has been deprived of that for which nothing in after-life can make amends. Although it is probably true that fewer present-day mothers are able to perform their maternal vocation of suckling their offspring than formerly, it is equally true that a large number deprive the infants of their natural food through selfishness, laziness, and indifference, and for pleasure and self-enjoyment many of the rich and poor alike are ready to sacrifice maternal aspirations and to subordinate maternal instincts. Diarrhœal diseases and deaths from defective nutrition are always quite truly referred to as the chief dangers to which hand-fed children are exposed and this fact emphasises the argument against rearing a child by hand except in cases of absolute necessity. The proportion of hand-fed children to those who are suckled increases yearly and everywhere the same testimony is forthcoming that children fed naturally from the breast have a prospect in life far in excess of those who are fed artificially. Even under the most favourable conditions the substitution for the infant's natural food of an artificial diet is disadvantageous, but when we find the mother's milk is very often substituted by inferior products administered by those who have little knowledge of the infant's requirements and none of the composition of what they are giving him, how can we hope to avert much preventable sickness and death? But it is not only in the actual number of deaths that one sees the evil of this state of things reflected. One has to think of the far greater number of infants who escape death but grow up with constitutions permanently damaged. Now I do not propose here on this occasion to discuss the many remedies which have been advocated and adopted to check this "slaughter of the innocents," but it is obvious that there are two main directions in which we must seek our remedy. We must get in touch with the mothers of to-day after the baby has made his appearance and guide and help them and we must educate the mothers of the future while they are under our control at school and while their minds are plastic and receptive. We must advocate breast-feeding, especially among the poor, the establishment of milk depôts and crêches as subsidiary measures, and teach the masses the great importance of a pure and clean milk-supply and proper preparation and cooking of food.

The need of bodily health as the foundation of sound mental work is generally recognised and the careful consideration and scientific and practical application of health conditions in all arrangements connected with education and school life in schools are of vital importance to the effective well-being and progress of the nation. The cultivation of child-life at school ages is a highly artificial process for which nature has made no special provision and which, in fact, must even under the best conditions be carried on to some extent in actual defiance of her laws; and much remains to be done if the evil consequences which too often result are to be reduced to the absolute minimum. The six-year old child, with his left ear on the desk, strenuously rendering himself myopic by a steady glare at a pen point wobbling in response to the clumsiness of his feebly controllable hand muscles, will then be no longer a common object of the school room and better ventilation and more cubic space in the class rooms will produce a more healthy and a more mentally alert body of scholars. If much preventable disease is to be prevented and if easily curable conditions which determine so much the physical and mental well-being of the individual in after years are to be nipped in the bud, we must have a medical inspection of all scholars at the commencement of their school career and repeated medical inspection during the continuance of it. Much educational energy is at present misspent; and the nation should, moreover, appreciate the economical advantage of insuring that all those who are being taught, at an enormous expense to the country, are made and kept as fit as possible to receive the maximum benefit from that education. The need for medical inspection of school children has been abundantly testified to by the work undertaken in this connexion in other countries. The hygienic reform of the future will depend almost entirely for its success on the proper education of the people. We are all too painfully aware of the large amount of wasted energy and life which results from ignorance and neglect of the laws of health and which, apart from the misery it entails, constitutes itself such a heavy economical loss to the State; and there can be no gainsaying that the ignorance among the poor of household management and of the elementary principles of hygiene is responsible in no small measure for their high preventable mortality, their physique, their intemperance, and their poverty.

[Dr. Kenwood then discussed the reduction in the death-rate from pulmonary tuberculosis, the recent pathological work in relation to cancer, the drink question, and the housing question as they affect the national prosperity, the advances in our knowledge of parasitology and tropical medicine, and other topics of interest in connexion with sanitary science in its broadest conception, and concluded an interesting address as follows:]

However good and wise legislation may be it is of little service unless it can be backed by equally effective administration, and at the present day it is the latter rather than the former which is at default. Prejudice, apathy, ignorance, selfishness, and vested interests still exist as bars to sanitary progress as in the days of old, and they clog the wheels alike of legislation and administration. We possess the knowledge of how to reduce speedily the sum of infantile mortality, of enteric fever, of small-pox, of puerperal fever, of consumption, of the diseases due to alcoholism, and to a less degree, the mortality from diphtheria, scarlet fever, measles, and whooping-cough, yet existing social conditions make progress slow and difficult. Dwellings are still ill ventilated, dirty, and overcrowded, public and domestic water-supplies are still polluted, food is still adulterated, chimneys still vomit black smoke and chemical fumes, sanitary work is still badly executed, local authorities are still indifferent, employers still exact labour under conditions which are disastrous to the worker's health, and individuals are still careless or ignorant of the simple laws of health practised in the days of Moses. There is then so much spade work of major importance to be effected that we do well to direct our attention to this at the expense of minor matters and studiously to eschew all sanitary fads and fancies. But the solution of many public health problems depends upon the solution of problems which are social and political. When Mr. Charles Booth declares that 30 per cent. of the entire population of London are unable to obtain a livelihood; when Mr. J. S. Rowntree states that from 25 to 30 per cent. of the town population of the United Kingdom are living below the poverty line; when we are confronted with the fact that about 400,000 people in London alone are living a one room life, where decency is not possible and morality is a farce; the magnitude of the social and political problems to be solved cannot be exaggerated. Problems of public health, moreover, change with altered circumstances and new ones are constantly evolving; many of the old ones are becoming more complex year by year and some are so dependent upon a high ethical level among the general public for their complete solution that only the millennium can be expected to see them solved. The public health worker, therefore, can never hope for a complete realisation of his schemes and ambitions and to his labours there can be no end. But his reward is the satisfaction of witnessing, almost daily, beneficent results from his work and it is this that stimulates and gives him zest.

"Does the road wind up-hill all the way?
Yes, to the very end.
Will the day's journey take the whole long day?
From morn till night, my friend."

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.

INTRODUCTORY ADDRESS BY MRS. BRYANT, D.SC., LITT.D.

Mrs. Bryant said: An ideal of study is most usefully conceived not as a scheme of learning to be achieved but rather in its psychological essence as growing out of the primitive intellectual interests of human beings. Interest in knowledge for its own sake—the theoretic interest—is to be

found more or less in every healthy normal person. According to brain, type, habit, association, and other circumstances its bent towards one or another branch of knowledge varies in individuals. One marked contrast is between interests in the natural and moral sciences respectively. Also the interest may vary in its bent as towards facts, their analysis, or the discovery of their causality. Its natural line of development, however, is always towards the ideal of knowledge as a whole in the reasoned—and therefore intelligible—system of science. Probably, although most persons are animated by this theoretic interest, few are greatly dominated by it. Those few form the natural nucleus of the intellectual classes. For the rest it is one main business of general education to develop the pure interest in knowledge, broadening as well as strengthening it, so that, finite though its aims must be, it may not be exclusive. This cultivation of the general theoretic interest is the best foundation that can be laid for special studies, professional, commercial, or industrial, to follow. Nevertheless, the practical interest in knowledge as power has its place in general education. Those in whom it is too weak stand in need of its development, while for those in whom it is strong it may be utilised for the development of the intellectual interests corresponding. To the man who wants to do things knowledge becomes interesting as power, the necessary ally of skill. To control and to amend nature it is necessary to understand and to handle her. This is the aim of the physician in his labour of amending human disease, and of the practical physicist intent on making nature serve an increased supply of pleasures to man. With the growing mass and complexity of human needs the demand for specialisation in studies runs far ahead of scientific necessity. It becomes the more desirable that in educated circles the theoretic interest in general—the observant outlook over knowledge as a whole—should be maintained. The specialist who loses his note of interest in human interests outside his special field loses something of his humanity. For the physician such a result would be peculiarly deplorable; the traditions of the profession are, happily, against it.

On the other hand, it is suggested that more should be done in elementary and secondary education (1) to develop the practical interest in relation to all the every-day problems arising naturally in the environment; and (2) to train it to a high ideal of the science and skill involved in their solution. The neglect of the practical interest in the practically minded is not only loss of good material for practical efficiency; it is also the loss of opportunity for the cultivation of the scientific interest. To inquire how a thing is made leads to inquiry as to its causation and at that point the youth or child becomes athirst for science. The practically minded are probably in a majority; defect of practicality is, however, not unknown among intellectual persons. It is a defect of serious import, not only as regards serviceableness in life, but even as a bar on the development of intellectual interests in the scientific sphere. For not only is doing dependent on knowing but, as the progress of experimental sciences shows, knowing is dependent on doing also. For the class of budding theorists, therefore, as well as for their opposite, early practical education is desirable, and the two contrasted types had best be educated without distinction together. The problem is, however, not a very easy one; it may be conceived as the finding of the true midchannel between the Scylla of forcing skilled work on children before their powers are ripe and the Charybdis of neglecting their practical nature in the growing years. To the complete student the two ideals of study, theoretic and practical, so sharply contrasted at first, appear as parts of the same ideal, each helping to develop the other, each necessary to the other as science to art and art to science.

SCHOOL OF PHARMACY OF THE PHARMACEUTICAL SOCIETY.

INTRODUCTORY ADDRESS BY SIR BOVERTON REDWOOD, D.SC., F.R.S. EDIN.

AFTER a few introductory remarks Sir Boverton Redwood reminded his hearers that although their advantages were far greater than those of their forefathers, yet their responsibilities were increased accordingly. Education must be progressive throughout life. Continuing, he referred to the nobility of work, to the necessity for perseverance, and to nervousness which he said that he personally was disposed to look with favour on, as he had often found it associated with high mental qualities. He next gave his audience some wholesome advice upon reading and exercise and continued as follows:—

I come, lastly, to the subject of specialising in study, in view of the prominent fact that specialism is the dominant note of advanced knowledge in these days, and I confidently believe that I shall be generally supported in the statement that the two dangers to be guarded against are the premature commencement of specialising and superficiality in acquiring special knowledge. We are not all of us mentally gifted as was the late Lord Salisbury, of whom it has been well said that he would have been a distinguished chemist if he had not been a great politician, or the illustrious Gladstone, who acquired unique knowledge of a wide range of subjects, and most of us need to specialise rigidly if we would apply to ourselves the maxim of knowing something of everything and everything of something. But there is, as I have said, a risk that the prevailing craze for specialism may lead us to begin specialising too soon and may tempt us to be satisfied with a veneer which will not stand the test of hard wear, however well it may look at first sight. Sir William Ramsay, in addressing the students here in 1890, uttered a few words of warning which I take to be indicative of his sharing the views which I have expressed. He rightly pointed out that whilst a man must, of course, specialise when he has to earn his daily bread by the exercise of a special calling, such as that of a pharmacist, he would be better qualified for his avocation in proportion to the extent of his general knowledge, and he expressed the opinion that the prevailing tendency of our schools and universities was far too much in the direction of specialisation. All will, however, I think, agree that if we are to keep before us, as I hope the students of the Pharmaceutical Society ever will, the laudable aim not merely of earning our daily bread and being useful members of the community, but also of adding something, however little, to the sum of human knowledge, it is necessary for us to specialise and to specialise not only in the sense in which the pharmaceutical chemist fits himself for his special calling, but subsequently to select some particular subject of study with a view to learning something more about it than other people know. It is, however, impossible for us to specialise advantageously until we have first of all laid a sufficiently substantial foundation of wide general knowledge. Without such preliminary work the superstructure cannot be regarded as safe and enduring. It is no doubt increasingly difficult to resist the temptation to abbreviate the preparatory course of training and study; on the one hand, a sufficiency of general knowledge means every year more and more and, on the other hand, the greater earnestness with which the battle of life is daily being fought strongly appeals to us to break away from the ranks and attempt more daring feats.

Nothing but a firm resolve to lead the strenuous life, of which President Roosevelt affords us so conspicuous an example, will enable us to carry out what is advocated, but such a life will assuredly bring a more or less rich reward to all who lead it. Do not let any student be discouraged by the thought that he has but few opportunities for doing anything more than his daily duties. Professor Tilden, the first Bell scholar, and a man whom I am proud to think of as an old pupil of my father, speaking in this lecture theatre 15 years ago, referred to Scheele, the illustrious Swedish chemist, as a man who spent a laborious life in working up an ultimately prosperous business as a pharmacist, but who, nevertheless, found time to prosecute researches resulting in discoveries which still rank amongst the most important that chemists have made. This research work was not carried out in a well-equipped laboratory, such as many of you have at your disposal in this institution if you qualify yourselves to make proper use of it, but was conducted in a back shop during such hours as could be spared from a business continuously requiring personal attention and it is especially worthy of note that Scheele successfully achieved both aims concurrently.

When the student should, with greatest prospective benefit to himself and others, begin to specialise by devoting himself to the study of some particular subject or to some branch of a subject and what his choice of a subject should be are questions which can only be answered after full consideration of the circumstances of each particular case. There is, however, far more risk of beginning too soon than too late, one of the modern dangers being, as I have already said, that of premature specialisation. Therefore, if there

be any doubt as to the sufficiency of the preparatory education let a further period be devoted to general study. I am myself conscious of many deficiences which might have been supplied if I had deferred taking up the subject which has demanded the whole of my time and energies for the past 35 years. I am sure that I should have been in a position to do my work more quickly and, at any rate, not less effectively, if I had less early become absorbed in an engrossing pursuit; and if I had now to make arrangements for living that part of my life over again I should certainly defer the commencement of specialising.

The choice of a subject is, even more than the time when specialising should begin, a matter in respect of which anything more than general suggestions cannot be offered for guidance. Obviously, if the study of the special subject is intended to be continuously concurrent with the conduct of the avocation of a pharmacist, the subject selected should preferably be that of a particular branch of pharmacy, or, at any rate, one of a nature allied to that of the avocation. Personal predilection for the special subject should, however, be the governing factor, and so long as the pharmacist does not neglect his routine duties he will be the better for having exceptional knowledge of something else. It is true that he may thus be gradually led into taking up a new pursuit as a means of livelihood but that consideration should not be a deterrent, for some of the most successful men have allowed themselves thus to follow the bent of their inclinations with the happiest results. It is, however, essential to success that the choice of a subject should be made with judgment if the aim is to combine specialism, as many are compelled to do, with the earning of a living and if possible a subject of growing importance should be selected. The choice having been made it is needful above all things to bear continuously in mind that the specialising must be thorough. The necessity for thoroughness in general study and in the special study of all that pertains to the avocation of a pharmacist has already been referred to and has, in fact, been insisted upon in a large proportion of the addresses which have been delivered by my predecessors in the position which I occupy to-day, but thoroughness is even more demanded of the specialist who aims at the acquisition of more knowledge of a particular subject than is possessed by others. Hence, as I have said, superficiality must be vigilantly guarded against. There will be times when even the conscientious student will be tempted to "scamp" his work, when he will say to himself, "I have carried my inquiries far enough," but should he give way to this temptation he will assuredly have cause to regret it. As soon as a man rises above the average level of men in general in respect of knowledge of a particular subject he becomes to a considerable extent removed from the healthy atmosphere of argumentative and corrective criticism and it is then that his inherent qualities are put to the test. The student who has reached such a stage in his studies should take this to heart and should search his own conscience. None but he can at the time know whether he is continuing to be thorough in his work but let him not think that he will long be allowed to sail under false colours. Time will prove whether his asserted superiority of knowledge is real or assumed and in the end he will be forced ignominiously to haul down his flag. On the other hand, the conscientious student, though he may be attacked will be able to offer a confident resistance, will succeed in holding his own, and will emerge from the conflict victorious and full of that satisfaction which the thorough worker can alone experience.

MIDLAND MEDICAL UNION.—On Sept. 27th, at the invitation of the professor of pathology (Dr. Arthur J. Hall), the members of the Midland Medical Union visited the new medical buildings of the University of Sheffield. The various class rooms, laboratories, museums, &c., were shown by the members of the staff in charge of them, and after they had been thoroughly inspected the members partook of tea and refreshments in the pathology department. The general arrangement of the buildings and the very complete equipment of the various laboratories produced a most favourable impression and there was a strong feeling that this, the youngest of the English universities, need not, as regards its medical side, fear comparison with any of its seniors.

ETHYL CHLORIDE AS A GENERAL ANÆSTHETIC.[1]

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ETHYL chloride, æther chloratus or chloräthyl, is a drug which has lately been, so to speak, rediscovered in its use as a general anæsthetic. In the year 1847, so important in the history of narcosis, Flourens observed that salzäther, like sulphuric ether, caused loss of consciousness and sensation. Von Bibra and Harless confirmed his observation by experiment on animals. In 1848 Heyfelder anæsthetised a man in five minutes for the insertion of a seton. The patient afterwards felt sick, then vomited, and complained of headache. Heyfelder in his second case administered ethyl chloride for Chopart's amputation through the tarsus. In this case there was no after-effect. Heyfelder says that "his three cases show that salzäther is well borne and causes no cough, no difficulty of breathing, no increase in salivary or lacrymal secretion, and no injection of the conjunctiva. The inhalations were successful and there was no great discomfort during or after them. But the high price of the drug and the difficulty of getting it pure and its great volatility did not allow of its frequent use." This description, written in the year after the discovery of chloroform, is mostly true to-day.

Ethyl chloride as a narcotic was forgotten till certain Swiss dentists in 1895 and 1896 observed that when used locally a general anæsthetic effect was produced in one or two instances. One of them used it as a general anæsthetic in one or two cases. In 1898 Lotheisen, then of Innsbruck (now of Vienna), published a paper on narcosis with ethyl chloride. He was the first to make routine use of the drug in general surgery and believed it to be far less dangerous than chloroform, which was practically the only general anæsthetic used in his city. Being much interested in his writings and those of others on the subject I translated and published Lotheisen's papers but waited till some 2500 cases (with one fatality) had been reported abroad before I began to administer ethyl chloride myself. I published my first cases in 1901. At the present time ethyl chloride is very largely used and increasingly so. In fact, it promises, I think unfortunately and, indeed, unjustifiably, to displace nitrous oxide extensively as an anæsthetic and particularly in one department of our work. There is plenty of room for both drugs. Soon after I began to administer ethyl chloride, believing that the foreign preparation which was generally used was not absolutely pure, so far as I could judge from the smell and certain clinical peculiarities, I induced a well-known British firm to take up the manufacture of the drug and now it can be obtained perfectly pure and of home manufacture.

With regard to the physical properties of ethyl chloride I should like to make a few remarks. Some of the foreign authors state that the boiling point is 11° C., others give it as 12·5° C. The specific weight which at 0° C. = 0·9214 decreases at 8° C. to 0·9176; therefore, there is a striking increase of volume of the ethyl chloride with increase of temperature. Thus a tube kept at 8° C. and containing 40 cubic centimetres if brought for ten minutes into a room at 16° C. will be filled up to the 50 cubic centimetres mark. It will be noticed that the spray is very much larger in hot weather than in cold and those who spray by time and not by sight will do well to remember this fact. The specific gravity of the vapour is 2·2 (as compared with that of air) so that it will sink to the bottom of the bag of an inhaler and can be retained there for some time.

It is better to have a pure drug for inhalation, though this is not necessary for local use. Pure ethyl chloride has an agreeable ethereal odour. The best test to detect impurities is that of smell, just as in the case of chloroform. If a little of the chloride be allowed to evaporate from the hand no disagreeable smell should be perceptible while the liquid is evaporating. A little practice in the test with a pure and impure sample readily makes one proficient in detecting

[1] A paper read at the opening of a discussion on Ethyl Chloride as a General Anæsthetic, at the meeting of the Society of Anæsthetists held on March 3rd, 1905.

odorous impurities. One or two of the foreign brands I have found to have a distinctly unpleasant smell. The drug should not have an acid reaction to litmus. Hydrochloric is the most likely acid to be present. The ethyl chloride should not redden blue litmus if allowed to lie in contact with it for at least 15 minutes. Another test of purity consists in introducing the vapour into water which should not then redden tournesol paper nor form a precipitate if nitric acid and a solution of silver nitrate be added. The difference of boiling point and specific gravity between certain foreign and the British brands may be accounted for possibly by the presence of impurities in the former. It must not be forgotten that ethyl chloride is inflammable and when brought in contact with a light it is decomposed, burning with a green-edged flame. Therefore, it should not be administered near a light. I have, however, used it several times to anæsthetise patients for cauterisation of the turbinate bones and have had no trouble. As regards the action of air and light, probably ethyl chloride, like chloroform, can be kept unchanged if exposed to air or light *singly* but the combined action apparently affects the purity of the preparation. From the nature of the case the ethyl chloride is little exposed to air, and light alone is unlikely to have any effect. In any case it is well to keep the flasks in a cool and dark place.

I showed in my paper of 1903 that ethyl chloride could be advantageously administered from a closed inhaler. Many inhalers and modifications of inhalers have been devised for the administration of ethyl chloride, but to my mind nothing new in this way is essential or even advisable. All that is needed is a bag inhaler of wide bore which can at any time be used for etherisation if ethyl chloride be insufficient or unsatisfactory. Some of the new inhalers have too long and too narrow an air-way, and in one at least of these last it is proposed to add a sponge so that ether could be added if wanted, in which case the air-way would be almost entirely blocked. In the angle piece of my Clover I have had a two-way stopcock fitted by which connexion with the bag can be opened up or shut off, so that I can gradually shut off air and simultaneously turn on ethyl chloride.

In giving ethyl chloride before ether I spray three or four cubic centimetres into the bag and shut off the stopcock. Thus I can lay by my inhaler for a few minutes or carry it about ready charged—e.g., into another room—without losing any of the drug by evaporation. Then having applied the face-piece I can, if I like, fill the bag by catching the inspirations by opening and shutting the stopcock. The filling the bag, however, is unnecessary if the dosage be correct. Then I ask the patient to breathe very quietly, for quiet respiration is the most important point in induction since it prevents any sensation of choking, and gradually shut off air and open up the bag. When he has taken seven or eight breaths I gradually turn on ether. I find I can get better results by this method than by "gas" before ether—i.e., I can more quickly induce narcosis, can altogether avoid cyanosis, and can better eliminate excitement and struggling, for ethyl chloride is a more powerful and more rapidly acting drug than nitrous oxide. Again, much less ether is needed for induction. Ethyl chloride in my belief is an ideal preliminary to etherisation and more especially for great smokers, alcoholics, and nervous patients. I have for a long time given up the administration of nitrous oxide before ether and find that my anæsthetic bag is now about four and a half pounds lighter than it used to be and that I have much space saved. I prefer the Ormsby for the administration of ethyl chloride by itself, rather than any special inhaler, and the more so that I can the more quickly change to ether if I need. The liquid should mostly be sprayed past and only a little on the sponge. The heavy vapour then is allowed to fall to the bottom of the bag. The patient is told that the smell of the vapour is rather peculiar and that he must breathe very quietly. If these precautions be taken there is no unpleasantness or pungency about the inhalation and with proper dosage I rarely hear a patient object to it. No air is needed until the patient is snoring and then in the case of weak people and children I usually allow one or two breaths if I am about to produce very deep anæsthesia in a single dose and another breath or two later. I find that too much limitation of air, or rather carbon dioxide, and other impurities contained in the expirations increase the tendency to after-headache and sickness. It is, I think, better from the point of view of after-effect quickly to produce narcosis with a full dose than to induce it more slowly with a smaller dose, simply because one thus avoids the inhalation of carbon dioxide, &c. I have often given ethyl chloride before a mixture of chloroform and ether and before chloroform alone but do not particularly care for this sequence, which is much used abroad, I believe. Reversing Hewitt's sequence of nitrous oxide, ethyl chloride, I have had one or two very successful cases of anæsthesia by ethyl chloride followed by continuous nasal administration of nitrous oxide to certain alcoholic and hysterical patients for dental operations. In the case of men and for all mouth operations I always insert a small dental prop roller-wise or a modified Doyen's gag between the teeth before beginning the administration. This is a very necessary precaution in case spasm of the jaw arises.

Somnoform I shall say very little about. I see no advantage in this mixture but rather believe it to be less safe than ethyl chloride, first, because it contains ethyl bromide; and, secondly, because the last few doses in the bottle unless used soon after the first are liable to decompose and to produce serious effects during or after inhalation. More than two years ago I tried various combinations of ethyl and methyl chloride, ending with a mixture containing 7 per cent. of methyl chloride, but for the last one and a half years I have used pure ethyl chloride. Mixtures of ethyl and methyl chloride containing as much as 50 per cent. of the latter seem to act very well, but I think that the evaporation of much methyl chloride with its very low boiling point causes an unpleasant sensation of chilliness during the first few breaths.

Now let us consider that all-important question to us as anæsthetists, and that is the degree of safety of ethyl chloride. What is its death-rate? Or, rather, How many deaths occurred during its administration? Let us see if we can deduce anything which will help us in our selection of cases for its administration. If I may, I will first mention shortly the deaths which have occurred during its administration. They are, so far as I know or have read, seven in number (there have been a few deaths under somnoform, which was claimed to be an absolutely safe drug by the inventors and by the makers, but this, I take it, is to be considered another anæsthetic). One or two deaths have been reported after ethyl chloride but cannot be reasonably referred to the administration.

The first death occurred in the practice of Lotheisen when at Innsbruck. The patient was a very strongly built alcoholic. Narcosis had lasted three minutes when the patient's blood became very dark. A minute before this he had been violent, so a fresh dose had been added. The inhaler was Bruer's, which allowed admixture of air. The corneal reflex disappeared and the respiratory muscles were in a state of spasm; the patient's face was cyanotic and his pulse was distinctly palpable but not countable. Then the pulse stopped. It was estimated that at most five grammes of ethyl chloride had been inhaled. The necropsy showed eccentric hypertrophy and fatty degeneration of the heart, sclerosis of the coronary arteries, and blood of a bright cherry-red like that in carbonic acid poisoning.

The second death, recorded by Bossart, occurred during tracheotomy for stenosis of the air passage from diphtheria in a boy aged about one year. Three cubic centimetres were used to induce anæsthesia, operation was begun, and then after three minutes two cubic centimetres more were administered, when on cutting the trachea the breathing became worse and though the wind-pipe was opened the respiration and circulation stopped, cyanosis appeared, and the pupils became wide. Death occurred from cardiac paralysis. Nieriker's mask, a semi-permeable one, was used.

The third death was that of a patient, aged 28 years, suffering from an incarcerated hernia. He had much vomiting but not fæcal in character. His general condition was poor. Anæsthesia was started with ethyl chloride and progressed satisfactorily until narcosis was approaching (about three or four minutes), when the change to ether was to be made. About 15 grammes of ethyl chloride were used from a cone. Just as ether was started the patient retched and vomited almost continuously an enormous quantity of nearly clear watery fluid without retching or inspiratory effort. When vomiting stopped in two or three minutes respiration was not resumed. Cyanosis was present and no pulse was felt. No obstruction could be felt in the throat. A necropsy was refused.

The fourth death was recorded at our last meeting and was that of a man who had a brawny swelling of his lower jaw

and neck of malignant origin. Six cubic centimetres were administered on an Ormsby inhaler and the patient went under without struggling, the lid reflex not being quite abolished but the pupils being dilated. On incision the patient stopped breathing but when his tongue was drawn out and artificial respiration was begun natural breathing was resumed. During dressing of the wound the patient began to struggle though unconscious still, then he became cyanosed and finally stopped breathing in spite of tracheotomy combined with artificial respiration. At the post-mortem examination the growth was found to press on the larynx and the left vocal cord was markedly swollen and œdematous. The heart was markedly fatty.

The fifth case was also recorded at our February meeting and was that of a woman suffering from the last stage of dropsy due to heart disease. The patient died suddenly.

The sixth case was that of a postman, otherwise healthy, who had a large abscess under the jaw on one side which also tended to point inwards near the tonsil. He could only open his mouth slightly. Induction was quiet. During incision of the abscess externally breathing stopped, the pupils dilated and cyanosis appeared. Great difficulty was found, and some loss of time was caused, in opening the patient's mouth; when this was done he took a few breaths and respiration then ceased. Air did not enter with artificial respiration and tracheotomy was performed after a delay of two or three minutes, but the patient did not breathe again. At the necropsy there was considerable œdema of the mucous membrane round the glottis. Probably, I think, rigidity and spasm of the muscles increased the œdema and caused complete obstruction. The administrator suggested that perhaps tracheotomy done earlier might have saved life. The fourth and this case show well the advantage of inserting, in view of possible spasm of the jaw, a mouth prop before administration of ethyl chloride, particularly in cases where there is any lesion about the upper air passages.

The seventh case is that of the death of the brother of a medical friend of mine. The patient was a strong man who went to a dentist to have some teeth removed. The dentist advised chloroform but the patient refused this, also gas, so the dentist administered ethyl chloride. No one else was present. When the dentist had removed four or five teeth the patient made attempts to vomit and stopped breathing. Pulling out the tongue and artificial respiration did not avail and tracheotomy was not done. The patient was said to have had during life chronic inflammation of the throat, whatever that may mean. I imagine the patient died from asphyxia and that the so-called attempts to vomit were really spasms of inspiration and expiration. The account given of this case is incomplete. At the post-mortem examination congestion of the lungs and chronic inflammation of the throat and larynx were found. Death was said to be due to failure of respiration. We have just heard the eighth fatality recorded. I was told of one case where dangerous symptoms occurred during removal of adenoids and tonsils in a child which necessitated tracheotomy, but it is doubtful whether ethyl chloride was responsible, for the surgeon thought that a small piece of growth had entered the larynx.

It would appear from two, and perhaps three, of the deaths I have mentioned that ethyl chloride, like nitrous oxide and ether, is dangerous when there is swelling in or about the larynx and that possibly any spasm visible in the jaw muscles may in certain cases be coincident with, or cause spasm in, the larynx. Possibly, too, the vapour if concentrated may originate spasm of the larynx, especially if it be inflamed. The vapour certainly causes increased vascularity of mucous membranes. In these cases, then, of inflammation or swelling about the upper air passages ethyl chloride as an anæsthetic would seem to occupy a place about midway between ether and chloroform. Thus, in marked cases of the type we are discussing ethyl chloride is better avoided, though hitherto its vapour has been supposed to be unirritating. In any case the deepening and quickening of respiration during narcosis will increase the risk. In two at least of the fatalities the patient's heart has been found at the necropsy to be fatty. Danger seems sometimes to appear with the startling suddenness which is so often associated with the administration of chloroform.

Ethyl chloride, then, has a very definite and increasing mortality. Now it is impossible to collect accurate statistics, but ethyl chloride must have been used several hundreds of thousands of times and if we take the death-rate at, say, about 1 in 10,000 cases we shall, I think, be somewhere near the mark, supposing that there have been no more fatalities than those mentioned. The death roll has been increasing rapidly in the last year coincidently with a great increase in the number of administrations. You will observe that no death has taken place in a healthy or comparatively healthy man, except in the dental case and the postman, and that in three cases there have been serious lesions about the upper air passages.

In view of the death- and danger-rate, the rapidity of the different phases of narcosis, and the need for prompt dealing with danger ethyl chloride should not be administered by other than medical men. Speaking comparatively, I should judge that ethyl chloride is nearly as safe as ether and by no means as safe as nitrous oxide, which is still in a class by itself. Ware says that in an experience of 1000 administrations he has six times seen symptoms bordering on fatality. In each instance they were those of respiratory interference due to the retro-placed tongue during profound narcosis or to insufficient allowance of air. For myself, I have not yet had a danger case in nearly 1500 administrations for all sorts of operations and only twice have I had to pull out the tongue and then in operations for removal of adenoids and tonsils. I have not yet had to perform artificial respiration. However, one of my patients died suddenly from syncope in bed while straining one and a quarter hours after an anæsthesia lasting about ten minutes. He, however, was, I think, the worst subject I ever had to anæsthetise for he suffered from stricture of the urethra, consecutive cystitis and nephritis, adhesive peritonitis, pericarditis, pleuritis, and fatty liver. He was in a pitiable state of fright beforehand and I do not know whether the administration had much to do with his heart failure. Dumont remarks on this case that the patient ought not to have had an anæsthetic, but nothing was possible without one.

In regard to the dangers of ethyl-chloride anæsthesia, they would seem to be chiefly on the side of respiration, which apparently fails before circulation. Too concentrated vapour is said to cause cyanosis and asphyxia which are quickly remedied by the usual means. The drug certainly lowers the blood pressure. Syncope during administration appears to be rare, though Lotheisen records it in a weakly man who had undergone great exertion immediately before being anæsthetised, necessitating inversion and artificial respiration. Recovery took place after fully three minutes (apparent) stoppage of the heart. This fact speaks well for ethyl chloride, for with any other narcotic more lasting in its action resuscitation would have been highly improbable. Parker records a case of syncope in a woman during administration in the sitting up posture for the extraction of three teeth. Inversion and artificial respiration were at once successful. Harvey Hilliard lately recorded a case of danger in which the eyelids were tightly closed, though the pupils were dilated and opisthotonos was present. Personally I have been fortunate in having no case of respiratory or cardiac failure during administration. Several other cases of syncope are recorded in the literature of ethyl chloride.

Coming now to after effects, the most serious one to be mentioned is collapse. This occurs principally after a single very full dose in which no fresh air has been allowed. I have seen it chiefly in dental cases where I have tried to obtain a very long anæsthesia. Collapse is favoured by the use of a small bag, which is sometimes used, and by neglect to keep the bag fairly distended during the induction of anæsthesia. Hence the narcotic poison carbon dioxide, and more than this, certain organic impurities, including some volatile bodies (of amide nature) which cause headache, drowsiness, &c., produce a poisonous effect. I have recorded a very severe case of vomiting, which lasted 30 hours in a delicate child, aged 11 years, whom I anæsthetised for nine minutes with nine cubic centimetres of ethyl chloride. She vomited at frequent intervals in spite of all attempts to relieve her. The sickness only stopped after she had taken some albumin water. The child was just as sick on another occasion after the administration of chloroform. These cases, more or less severe, of collapse are often accompanied by much nausea and vomiting. I have seen them only in the recovery room of a dental hospital, and after my own experience of them and watching the cases of others I am sure that they are much more frequent and severe than is generally supposed, observed, or admitted, especially in out-patient practice. I have questioned the attendants in two large dental departments and they unanimously stated that the after effects of ethyl chloride were often severe and prolonged and that

vomiting was frequent. The attendants see more of the patient afterwards than does the anæsthetist.

This brings me to the question of the routine administration of ethyl chloride in dental operations. Because of (1) the less safety; and (2) the severity and frequency of after effects and especially the frequency of collapse and vomiting, I think now as I wrote two years ago that ethyl chloride should not be used in dental work if what is necessary can be done under nitrous oxide. Ethyl-chloride anæsthesia is an ideal one for the operator, says the dental surgeon, and it is an ideal drug for the administrator to give, but the patient very often does not think it afterwards an ideal anæsthetic. In cases where I have administered a full dose I have several times known patients to be faint and ill and sick, in fact, collapsed, for from one to two hours, and this, moreover, has had a bad effect on the recovery of other patients in the room. In private work it must be very undesirable, to say the least, for the dentist's waiting room to be occupied by a patient ill after ethyl chloride. A dental surgeon who visited this society last winter strongly expressed his similar views on the subject. He said: "That from the point of view of the dental surgeon the comparative frequency of after vomiting made ethyl chloride quite unsuitable for use in private practice. These after effects, the necessity for preliminary dieting, and subsequent need of rest strongly militate against its use. The continuous method of administering nitrous oxide suffices for any ordinary dental operation." What is good for the private is good for the hospital patient. On the other hand, we find a dental surgeon saying "that by the use of ethyl chloride we have taken a distinct step in advance of N_2O for most dental operations." His experience extended to over a thousand cases and he only once nearly had an accident which, however, necessitated artificial respiration, as he rather quaintly put it. In dental work ethyl chloride is advisable for those who have taken gas badly before, for alcoholics, patients with trismus, for hysterical persons, and for small children. In this last class of case I always give ethyl chloride instead of "gas" to small children under ten years, or big children under eight years, unless the operation be very short or simple. In all other dental cases the continuous method of administering gas gives such good results, if more than 30 seconds' anæsthesia be needed, that I think we are not justified in advising ethyl chloride for them. It is significant of the extensive increase in the use of ethyl chloride in dental work that the manufacturers of gas are beginning to fear that their trade will soon disappear. It seems already to have seriously diminished.

Gas and oxygen I have quite given up in dental and general surgical work since I began to administer ethyl chloride. In both classes of work almost as good a type of anæsthesia can be obtained by gas mixed with air as by gas and oxygen and in general surgical work a much better and deeper narcosis can be gained by ethyl chloride when something short of etherisation is wished for. I do not administer ethyl chloride for operations lasting more than half an hour as a maximum and usually for not more than 10 or 15 minutes. After a few minutes any spasm relaxes as soon as, or sooner than, it would under ether. In most cases plenty of air and plenty of ethyl chloride will cause relaxation and the insertion of a mouth prop before narcosis much facilitates this condition. Fielden found that in three cases of reduction of a dislocated shoulder relaxation was perfect. In throat and oral cases if there be jaw spasm it is usually easy to open the mouth by separating the handles of the gag with a jerk. In most cases of continuous anæsthesia it is not necessary after the first minute or two, at any rate, to abolish the lid reflex.

In minor surgical work in hospitals in Birmingham the resident officers have practically given up the use of nitrous oxide in favour of ethyl chloride. In the Ear and Throat Hospital nothing else has been used for two years in the operations for removal of tonsils and adenoids (last year we administered the drug to nearly 1400 patients and I regard it as the best anæsthetic for these cases). In them the after-effect is practically *nil*. However, if a non-expert is operating, ether or a mixture of chloroform and ether is advisable. In ear and eye work ethyl chloride offers great advantages over gas or ether owing to the little increase of vascularity it causes.

In gynæcological out-patient operations and examinations it is the best anæsthetic, for in women relaxation of muscles is easily obtained. According to Montgomery and Bland in enfeebled patients requiring vaginal incision for pelvic drainage it is an ideal agent. In cystoscopy by Kelly's method, however, I have found that the deep breathing seriously interfered with success. Erdmann has had excellent results in forceps cases in midwifery practice. Other writers speak well of the drug in this class of work. I have successfully administered it in several eye operations, including five cases of excision of the eye ball.

I should like to mention that I have once met with a charge of indecent assault from a female patient. Marshall mentions two such charges in about 50 cases. Patients do not seem to dream as much as they do when under nitrous oxide, and if they do, so far as my experience goes, dreams have always been pleasant. I have only noted pugnacity during recovery in two cases.

The contra-indications to ethyl chloride are connected with the upper air passages and particularly with inflammation or narrowing in or about the larynx—e.g., swelling or œdema thereabouts. Patients suffering from goitre take it well unless there be marked dyspnœa or stridor. Our President, Mr. Carter Braine, last session gave us an instance in which ethyl chloride was given with excellent result after great danger had arisen under nitrous oxide in a goitrous patient. I administered ethyl chloride for six or seven minutes once to an old man who was being tracheotomised for a malignant growth in the larynx. The operation was a difficult one and the increased vascularity and quick breathing so embarrassed the operator that I changed to chloroform with the result of marked improvement to the patient's condition. Girard has suggested kidney disease as a contra-indication but there seem to be no facts to support him.

From a medico-legal point of view ethyl chloride (and ethyl bromide) is the only drug with which it would be reasonably possible to bring about the remarkably quick loss of consciousness alleged to have been caused by the close and forcible application of a handkerchief or cloth over the mouth, and so far as I know it has not yet been suggested that these drugs have been thus used. In any case the handkerchief would need to be large and fairly thickly folded, to be saturated with the drug, and so firmly applied as to exclude all air.

In military surgery ethyl chloride will be very useful owing to its portability and rapidity of action. In certain procedures, such as tying blood-vessels and small amputations, it is necessary to operate on the spot before the patient can be safely transported to a base hospital. The saving of five or six minutes in the induction and, say, of ten minutes in the recovery from narcosis is in such conditions most important, especially as the number of surgeons is always out of proportion to the number needed in a serious engagement. Time, too, could be saved by administering ethyl chloride before chloroform. Again, in soldiers enfeebled by campaigning and suffering from great loss of blood shock would be far less intensified by ethyl chloride than by chloroform. Again, after ethyl chloride narcosis patients are at once safely transportable. In the Austrian and Roumanian armies ethyl chloride has been used since 1900.

The pendulum of fashion has now swung too far in favour of ethyl chloride and as it is our duty to produce anæsthesia with the least physiological disturbance to the patient we must see to it, in view of the number of deaths and the oft-times severity of the after-effects, that ethyl chloride shall not be administered without good reason and should use our influence to prevent its use by those unqualified in the practice of medicine and surgery. It is still the duty of the anæsthetist to choose his anæsthetic thinking first of the safety of the patient.

In conclusion, I believe that ethyl chloride occupies a position as an anæsthetic about midway between nitrous oxide and ether. It is, as one would expect from its composition, more toxic than the former, and when used in properly selected cases nearly as safe as the latter. Nitrous oxide as regards safety is still in a class by itself and where it can be administered it should be administered. We should use ethyl chloride rather to replace chloroform and ether in certain cases than to administer it as a substitute for nitrous oxide. For short operations needing longer and deeper anæsthesia and greater muscular relaxation than nitrous oxide or nitrous oxide mixed with oxygen affords, ethyl chloride is of great advantage. As a preliminary to etherisation it is unequalled. In cases where there is much thickening of the tissues of the neck or any

suspicion of laryngitis or œdema of the larynx or there is narrowing of the air way beyond the mouth it is contra-indicated.

Birmingham.

A CASE OF MOTOR APHASIA WITHOUT AGRAPHIA.

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THE great point of interest in the following case is the fact that there was complete motor aphasia without any agraphia; any defect in writing which was present in the early stages of the case was clearly a mere defect of manipulation, a defect due to inability to hold the pencil and not an aphasic defect properly so-called. The aphasia was purely motor. For a fortnight after the occurrence of the lesion the patient did not utter any spoken word, although she tried to do so. It was only after she was taught to repeat vocal sounds, vowel sounds (on Feb. 1st and 2nd), that she began to speak at all, and it was not for several days after this that she was able to repeat the most elementary speech sounds (vowels and letters). On Feb. 3rd, when she could only repeat some of the letters of the alphabet, she wrote me a well-written letter. I know of no case in which such complete motor-vocal aphasia was associated with such perfect writing ability. It is by some authorities supposed that the nervous impulses concerned in the production of written speech pass through the motor-vocal speech centre (Broca's centre) in order to reach the graphic or writing speech centre. I have for years past argued against this view and taught that under ordinary (normal) circumstances the nervous impulses for written speech pass from the visual speech centre to the graphic speech centre directly and not through the motor-vocal speech centre. If in this case the motor aphasia was due to a lesion of Broca's convolution (the motor-vocal speech centre), this view would, of course, be absolutely proved, so far at least as this individual case is concerned. But the question arises whether the motor aphasia depended in this case upon a lesion of the motor-vocal speech centre (Broca's centre) or upon a lesion of the conducting fibres which pass from the motor-vocal speech centre to the internal capsule—in short, whether the lesion was central (cortical) or subcentral (subcortical). In the absence of post-mortem examination it is, of course, impossible to say. The facts that even when the motor aphasia was complete the patient could correctly indicate the number of syllables in a word pronounced in her hearing and that there was absolutely no other aphasic defect except the motor aphasia are in favour of a subcentral (subcortical) lesion. It is easier, too, to suppose the association of such marked motor-vocal aphasia with no agraphia as the result of a subcortical than of a cortical lesion. On the other hand, I know of no case in which such complete and persistent motor aphasia was the result of a subcortical lesion; such marked and persisting motor-vocal aphasia is, in my experience, suggestive of a central (cortical) lesion, of destruction of the motor-vocal speech centre. But whatever may have been the position of the lesion, whether involving the motor speech centre itself or the fibres passing from the motor speech centre to the internal capsule (and ? corpus callosum), the remarkable fact that such complete motor-vocal aphasia was associated with no agraphia is of the greatest interest. Another point in the case which should be noted is the long persistence of the paralysis of the right side of the face. The clinical history is as follows.

The patient, a married woman, aged 27 years, was admitted to the Edinburgh Royal Infirmary on Jan. 23rd, 1900, suffering from right-sided hemiplegia, loss of speech, and pain in the left side of the head.

History of present illness.—A fortnight before admission to hospital she was attacked with influenza; for the first few days of the attack she continued to go about the house, but on Jan. 13th her throat became so inflamed that she had to go to bed. She was doing well until Jan. 18th (six days before admission), when she was suddenly seized with head symptoms. She got out of bed at 5 P.M., suddenly felt giddy, felt her hands numb, and fell backwards, striking the back of her head; on rising from the floor she fell forwards and bruised her forehead; she then managed to crawl back into bed. At 6.30 (one and a half hours after the onset of the attack) her husband returned from work and found her in what he thought was an unconscious condition—lying on her back, unable to speak, the limbs being rigid. She became conscious soon after her husband came home but could not speak. (A very full description of the onset was written by the patient on Feb. 26th, 1900.) Her husband and mother state that her face was twisted to one (they think the right) side and that both legs and the right arm were stiff. She complained of pain in the forehead and right side of the face (probably due to the fall). The stiffness of the limbs (legs) soon passed off but the right arm remained paralysed. The medical man who saw her soon after the occurrence of the lesion kindly sent me the following account of the condition:—

28th January, 1900. I saw Mrs. —— for the first time late on Thursday, the 18th inst. I learned that she had been confined to bed for about a week with an acute condition, probably influenza, and that she was just recovering from her menstrual period. Mrs. ——'s mother who was nursing her thought she was almost better and had left her for a few hours alone in the house that afternoon. It was subsequently ascertained that Mrs. —— had risen from bed to attend to a messenger at the door and in going back to bed had fallen twice. When I saw her her general expression was anxious. Temperature 98° F.; pulse 100. The pupils seemed equal and reacted to light. The tongue on protrusion pointed towards the left side, the mouth seemed slightly drawn to the right, and she was unable to close the lips on the left side. She could move both arms. The legs were rigid and extended and on abducting one the other was adducted. The patellar reflex could not be obtained. Sensation seemed diminished for the first two days when the left side became hyper-sensitive. The hearing was good and Mrs. —— seemed to understand what was said to her. She complained of a frontal headache. She could recognise the time on a watch and could write the first two letters of her name. She got a mixture of iodide and bromide of potash with ergot.

It is difficult to explain the medical man's statement that the face was twisted to the right side and the tip of the tongue when protruded turned to the left, for on the patient's admission to hospital the right side of the face was paralysed and the tip of the tongue when protruded was turned to the right side. On Jan. 22nd (four days after the onset of the cerebral attack) the legs again became stiff and rigid, but not so stiff as on the previous Thursday, and her arms were, it is said, held up in the air in front of her. During this attack she complained of pain in the region of the heart. The patient was quite cheery after this attack and swallowed some gruel with more relish than she had done before. Since the onset of the attack up to the time of her admission to hospital the patient has not spoken any word.

History prior to the present illness.—Since the age of 16 years the patient had at times had attacks of *petit mal*, never any convulsions. Two years ago a small tumour was removed from the "mouth of the bladder"; about the same time she suffered from bad varicose veins in the left leg. Two years ago she had a slight attack of rheumatic fever and for the past year had been short of breath on exertion and had had occasional palpitation. She was married four months ago; since her marriage she had been "nervous and easily startled."

Family history.—The patient is the sixth child in a family of 15. Five of her brothers and sisters died in childhood. Her father died from pulmonary tuberculosis at the age of 50 years; a brother died from pulmonary tuberculosis at the age of 33 years; and one brother has had rheumatic fever. Her mother and the other surviving members of the family are well and strong. There have been no nervous troubles amongst her near relatives. Her home surroundings are quite satisfactory and her household duties are not heavy. She is quite happy in her marriage.

Condition on admission.—The patient was right-handed. She was well nourished. She lay with her head slightly turned to the right side. Her expression was at times suggestive of suffering. She was mentally quite alert. She had difficulty in swallowing owing to an inflamed and swollen throat. The left leg was swollen and painful below the knee owing to inflammation of varicose veins. The right side of the face was markedly paralysed and the tip of the tongue when protruded was turned to the right side. The paralysis chiefly involved the lower facial muscles but the orbicularis palpebrarum was also affected; the left orbicularis palpebrarum also seemed weak but much less so than the right. The right arm was relatively weaker than the left; the grasping power in both hands was feeble (dynamometer, right = 20; left = 25). The right leg was

also weak but not so markedly so as the arm. All the movements in both legs and both arms could be performed, but slowly and weakly. It was difficult to compare the motor power of the legs, for the veins in the left leg were inflamed and the slightest movement of the leg caused pain. There was no ocular paralysis. The pupils were equal and small in size, they reacted actively to light and on convergence. The optic discs were normal. The knee-jerks were active and apparently equal on the two sides (but it was difficult to make comparative tests because of the inflamed condition of the veins in the left leg). There was slight ankle-clonus on the right side. The plantar reflex showed an extensor response on the right side; there was no toe movement on the left side. There were some anæsthesia and analgesia on the right side of the face; the skin sensations were elsewhere normal. Vision was normal; there was no hemianopsia. Hearing was impaired in the right ear. Taste was impaired on the right side of the tongue. Smell was abolished in the right nostril.

Speech functions.—The patient was right-handed. She understood everything that was said to her (no word deafness). She was totally unable to speak (complete motor aphasia). She could read quite well (no word blindness) and there was no hemianopsia. She had difficulty in holding a pen or pencil but seemed to be able to write quite well if it were not for the manipulatory defect. She wrote her name and a short sentence dictated to her (no agraphia). She correctly indicated on her fingers the number of syllables in the following words: "papa," "mama," "Constantinople." She was quick at understanding signs. So far as could be judged her intellectual faculties were not affected in any way. The sole defect seemed to be inability to speak (motor aphasia). She did not say any word spontaneously. She did not say anything in answer to a spoken or written question. She was unable to repeat vocal speech; but when the words "papa" and "mama" were slowly articulated and her attention was directed to the lips of the speaker she managed to copy the movement and to whisper the words in an imperfect way.

Circulatory system.—For the past year the patient had been short of breath on exertion and had at times had palpitation. There was some roughness before the first sound in the mitral area (mitral stenosis). The pulse was 80, regular, and weak. The urine was normal.

On Jan. 29th the inflammation was extending up the veins of the thigh. The throat was better. On Feb. 2nd the paralysis of the right side of the face was less. The patient had been practising the repetition of vowel sounds spoken to her. She was able to repeat a, i, o; she made an attempt at e, but could not manage u or ah; she made a good attempt to repeat "no" and "pa," but could not say "yes." She could answer spoken questions in writing; the only defect seemed to be due to inability to hold the pencil. In answer to the following questions she made the following replies in writing: *Q.* What day is it? *A.* Friday (correct).—*Q.* Have you any pain? *A.* A little in the thigh.—*Q.* What sort of pain is it? *A.* Shooting pain. When told to ask some questions in writing, she wrote the following: "If I will get my speech back Dr." She was told to write me a letter and to give it me in the morning. On Feb. 3rd she gave me the following well-written letter:—

Good morning Dr. Brambell. I am very pleased to say that I feel myself getting so much better every day and I am so delighted with myself at being able to say a few words for I was giving up hopes of ever being able to speak again but many thanks to you all for your attention to me for I dont think I will be long or I am better. My throat is a great deal better. I am able to swallow much better now and the right side of my face has not such a dead feeling in it now it feels stiff and weak but hopes it will get all right in a short time. I will wait patiently till I get better. My leg is ever so much better I have just a little pain in the thigh and my leg a bit stiff with being slung in the cage. I had a good nights rest but had a strange dream of being beside a great many wild beasts and I was in an awful state to get away from them but could not run with the cage tied to my leg. I fancy I see myself hobbling around them trying to get away but they have not catched me for I am all safe. I am Yours sincerely AGNES ——.

The patient looked brighter. She repeated well (vocally) the following letters: a, e, n, o, p, t; imperfectly, b, d, g, l, j, l, s, x; unable to repeat, c, f, h, k, m, q, r, u, v, w, y, z She repeated the following words: "no," "yes," "hat," but was unable to repeat "Agnes" (her own name), "better," "dog," "cat," "fat," "thin." When asked whether her throat was better she answered distinctly "Yes." When told to repeat the words "Agnes" and "Bella" she said "Ag" for "Agnes" and "Bell" for "Bella." On Feb. 5th the temperature had risen to 100·4° during the previous night and the patient complained of shooting pain in the left temple. To-day the temperature was normal and the patient seemed all right. On the 6th she handed me the following letter:—

Good morning Dr. Bramwell. I am very pleased to say that I feel ever so much better this morning. I had an awful sore head yesterd but it is quite better this morning. I had a good nights rest and had a very good breakfast and was able to chew a piece of bread so that my face is a great deal better now the stiffness is nearly all gone and my leg I am thankful to say that I dont feel any pain in it this morning. I think I will be all right soon if I had back my speech again which I am practising and learning. I am Yours sincerely AGNES ——.

She made an attempt to say "Good morning" and "Good night." To-day she was able to repeat the following letters (vocally), a, b, d, e, f, i, l, n, o, p, r, s, t, oo for u, and v. She could not say the other letters of the alphabet—c, g, h, j, k, m, q, w, x, y, and z. She repeated indistinctly the words "five," "six," "nine," and "ten." On Feb. 8th she handed me the following letter:—

Good morning Dr. Bramwell. I am very pleased to say that I feel myself getting so much better every day and I also feel stronger. I have no pain in my leg now it feels quite gone and I am able to move it up and down now and the pain in my head is gone also. My face is improving very well and I am able to swallow quite well now but not able to chew very well on the right side yet but it is a great deal better than it was. I am learning to speak a little more there is a few more words I have been practising which I am able to say there is some words that seem to stick in my throat that I cannot get out at all. I am Yours sincerely AGNES ——.

She said "nurse," "doctor," and, pointing to her leg, "no pain now." To-day she repeated the letters g, h, m, which she was not able to do before. On Feb. 19th the patient had steadily improved since the last note. She could now say a great many new words. She said "Dr. Bramwell" (the "w" was not well pronounced), "Dr. Seager," and "Nurse Beattie." When asked to say a long word, such as "hippopotamus," she said "I tried it but it was too big." She could say most words now so as to be intelligible, but the pronunciation and articulation were often defective. She felt well and was very bright; the facial paralysis was greatly improved. The inflammation of the veins of the left leg was now almost quite well. On Feb. 26th the patient continued to improve as regards speech and handed me the following written account of the onset of the attack:—

DEAR SIR,—Not having been able to make anyone understand how I fell I will try to explain it as well as I can here. On the Thursday afternoon that I turned ill I got out off bed after Mother went out. I was told not to rise but I felt so well that I rose and after coming out of bed I sat down on a chair to put on my clothes when I had been a few minutes on the chair I felt my head getting giddy but I thought it would pass off and I started to put on my clothes my hands became funny there was a sort of tingling feeling in them and they began to get awfully big and my head became more giddy that I was frightened my hands were getting so big that I gave a sharp turn round to look if there was anybody at the back of the chair for my hands did not seem to belong to me. I rose from that chair and went to one opposite thinking it would be better but whenever I tried to move my hands they were always getting bigger and my head was so giddy I could hardly see everything seemed black before my eyes. I again rose and stood between the chairs but I was no sooner on to my feet than I fell on the floor on my head. I was stunned with the knock I got and when I came round a little I tried to rise but had not strength to get up. I managed to get hold of the leg of a chair to pull myself up but I pulled the chair on to my forehead perhaps that is what bruised my forehead I cannot tell. I again tried to rise by means of chacking [catching] hold of a cover of a box and this time managed to get up when I had just got up the Bell rang with an awful peal from the foot of the stairs but I was so stupid and dased that I did not know how I was to get to the door and the Postman came up 3 pair of stairs and was making a great noise rapping on the door before I managed to get to it I remember opening the door but all I seen was a light and I suppose it would be the postman's lamp. I was so giddy and felt all out of sorts I dont mind of ever getting the letter into my hands but Mother has told me since that she found the letter at the back of the door after she came home it is no distance from the door to the bedside and it was with great difficulty I got to the beside [bedside] and when I was in front of the bed I again fell on the floor with a thud on my face this time I tried to scream but could not I tried to get up but I found my limbs stiff and sore I tried after to get up I at last got hold of the bed clothes and it was with difficulty I got partly into bed. I do not know how I managed to get into bed at all my limbs was so stiff, but I do not remember any more untill my husband came in. I never heard him come in and I never saw him come in he says he spoke to me and I only looked at him in a dazed manner I dont mind anything about that but when I did come to myself again he was standing at the bedside and he spoke to me again and it was when I tried to answer him that I found I could not speak and I was so stiff and cold that I could scarcely move and when Mother came in she sent for the Doctor. I think I have made some mistakes in spelling hope you will make It out. I am Yours sincerely AGNES ——.

On April 25th, 1900, the patient was discharged. She was able to speak fairly well but somewhat slowly. She could repeat all the letters of the alphabet and numbers and was able to name all common objects shown to her. She stumbled most over the labials. There was still slight paralysis of the right side of the face.

Subsequent progress of the case.—On April 25th, 1901, the patient was seen at the Infirmary. She felt quite well; better, she said, since her discharge from hospital than she was for a long time before her illness. She still spoke thickly; she had the greatest difficulty with labials. If she became excited she said she was at times unable to speak though she knew what she wanted to say. There was still some weakness of the muscles on the right side of the face, especially the lower face. The right hand was also weaker than the left (dynamometer, right = 55; left = 85). On Sept. 2nd, 1903, the patient felt very well. The fainting turns (*petit mal*) which she had had since the age of 16 years were more frequent than before her illness; they generally occurred once a month, sometimes with the "period"; she had never had a convulsion. There was still slight loss of power on the right side of the face. Her speech was still difficult if she became excited or tried to speak quickly. When she spoke quietly she could say what she wished quite well. If she became excited, "the words," she said, "won't come out." She felt the right side of the face to be a little stiff; she thought that the difficulty in speaking was due to this. There was no obvious facial asymmetry except when she spoke. When she showed her top teeth the two sides of the face seemed to act symmetrically and equally. There was no weakness of the orbicularis palpebrarum. On Sept. 20th, 1905, the patient had been very well since last seen. She still felt the right side of her face a "little stiff" and she still, when excited, had some difficulty in articulation. When she spoke the mouth was still drawn a little to the left side.

Diagnosis.—There can, of course, be no doubt that in this case a sudden organic brain lesion, probably either embolism or hæmorrhage, was the cause of the symptoms. The following facts all seem to be strongly in favour of embolism rather than of hæmorrhage: the age of the patient, the presence of mitral stenosis, the sudden occurrence of the lesion during a febrile attack attended with severe sore-throat and phlebitis, and the brief duration of the coma, if coma was actually present at the onset. The sudden onset seems to negative thrombosis. The embolism probably affected the left middle cerebral artery or some of its branches, but there are some features of the case (the loss of sensation on the right side of the face, the loss of hearing in the right ear, and the loss of smell in the right nostril, if these developed as the result of the lesion) which perhaps suggest a lesion of the posterior end of the internal capsule. But against this localisation is the fact that the leg was much less paralysed than the arm and the face. So far as the paralysis is concerned, and granting that the lesion was an embolism of the left middle cerebral artery, the lesion would appear to have been cortical and subcortical—a softening of the lower end of the motor area on the left side.

Edinburgh.

OBSERVATIONS ON THE THYMUS GLAND IN CHILDREN.

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ALTHOUGH a large amount of experimental and clinical work has recently been published concerning the thymus gland there is probably no gland in the body about which so little is generally known and about which so little interest is generally taken. The facts that its functions, whatever they may be, cease after childhood and that it is seldom the seat of gross organic disease are doubtless partly responsible for the indifference shown with regard to it, while the uncertainty of our knowledge as to its value to the organism prevents much space being devoted to it in the ordinary text-books. In the present paper certain observations will be recorded bearing on some more or less disputed points; for further information as to the thymus the reader is referred to the recent works mentioned in the footnotes in this article, among which the most exhaustive and informing are those by Bonnet [1] and Dudgeon.[2]

The materials on which the present paper is founded were obtained in the post-mortem room at the Bristol Children's Hospital and comprise observations on over 50 cases. These cases were not selected but taken consecutively in the ordinary course of the pathological work. As far as possible the weight of the child post mortem and weight and condition of the thymus have been noted in every case; sections of the gland have been made and stained by various methods and the results grouped according to the clinical history and cause of death. I am indebted to the honorary staff of the hospital for permission to use the clinical notes of the cases. The points I intend dealing with are: (1) the weight of the normal thymus; (2) the fibrotic changes in the thymus as occurring in chronic wasting diseases in children; (3) fibrotic changes in acute disease; (4) hyperplasia of the thymus; and (5) certain points connected with the pathological histology of the thymus.

The weight of the normal thymus.—Unlike most of the normal viscera, the weights of which only vary slightly in different individuals, the thymus gland appears to show great difference in size and weight. Dudgeon has drawn up a table showing the various estimates of different observers, the older writers being inclined to give a much higher estimate than is borne out by recent observations. Many of them put the average weight at half an ounce at birth, increasing to one ounce at two years, and then slowly decreasing till puberty. Testut, however, considers five grammes (77 grains) the average weight at birth, and Thursfield puts it at 6·7 grammes (103 grains). Dudgeon himself works out the average of his cases at 7·1 grammes (109 grains). No doubt great variations may occur, but it is important that the microscopical structure of a thymus should be noted before the organ is accepted as normal. In my own series of cases 14 glands were normal on microscopical examination, the ages of the children varying from one month to seven years. The average weight was 128·7 grains (8·34 grammes), the smallest from a child aged three months weighing 30 grains (about two grammes) and the largest from a child aged ten months, weighing 398 grains (26 grammes). 11 of these children were under one year of age, and of these only four had thymus glands weighing more than 100 grains, the average weight of the remaining seven glands being 53·5 grains (3·5 grammes). I should therefore be inclined to put the usual weight of the thymus at birth below 100 grains and to consider the possibility of larger glands being examples of some pathological condition. Noël Paton and Goodall [3] in a series of observations on the thymus gland in guinea-pigs found that though the gland varied greatly in weight it bore a fairly constant ratio to the body weight of the animal at birth. It is, however, very doubtful whether the period of active usefulness of the gland is the same in all animals, and there is some reason for holding that in children its period of post-natal importance is longer than in young guinea-pigs. At any rate, I could find no indication of such a correspondence to body weight in my own cases in children nor does Dudgeon's more extensive series show any reason for supposing it to exist.

Fibrotic changes in the thymus in chronic wasting diseases.—The normal functional extinction of the thymus takes place by a process of fibrosis. The septa between the lobules, which in a healthy infant are very slight, increase enormously and encroach on the glandular structure; the lymphoid elements decrease, the whole organ shrinks, and the distinction between the cortex and medulla disappears; it is usual, however, to find a minute amount of gland tissue still remaining in the normal adult thymus. In various atrophic conditions in children this process occurs with great rapidity, so that it has been said that an estimate of the nutrition of an infant may be formed by an examination of the thymus gland. Dudgeon has classified his cases into primary and secondary, the former including all cases of what is commonly known as marasmus, the latter including chronic diseases which involve marked loss of body weight such as tuberculosis. I have examined 12 thymus glands in marasmic infants. These infants were all under one year of age, the youngest being one month old; they were all considerably

[1] Bonnet: Gazette des Hôpitaux, Dec. 9th and 16th, 1899 (with Bibliography).

[2] Dudgeon: Journal of Pathology and Bacteriology, 1904-05, vol. x., p. 173 (with Bibliography). The following papers also deal with this subject:—Cautley: Clinical Journal, April 6th, 1904, p. 385. Sinnhuber: Zeitschrift für Klinische Medicin, Band liv., No. 1 and 2, p. 38, 1904. Magni: Archiv für Kinderheilkunde, Band xxxviii., No. 1 and 2, p. 17, 1903. Goodall: Journal of Physiology, vol. xxxii., No. 2, p. 191 (with Bibliography).

[3] Noël Paton and Goodall: Journal of Physiology, vol. xxxi., No. 1, p. 49, 1905.

under the normal body weight. The average weight of the thymus was 38·5 grains (2·45 grammes), the smallest weighing 20 grains and the largest 72. There was in all but two cases marked fibrosis of the organ, the interlobular septa being much thickened, as was the connective tissue round the blood vessels. There was also a diminution in the number of lymphoid cells, their place being taken by endothelial and young connective-tissue cells. The cortex and medulla could not be differentiated. In the two exceptions to this general rule the thymus showed only very slight fibrosis in one case and none at all in the other, though the lymphoid cells were diminished. In the first case the child (aged five months) weighed only 7 pounds 11 ounces and the thymus weighed 66 grains. In the second the child (aged three months) weighed 3 pounds 12½ ounces, the thymus being 35 grains in weight. Dudgeon's 15 marasmics showed fibrosis of the thymus in all cases, the average weight of the gland being 2·68 grammes. Rühräh's[4] series of 16 marasmics showed an average weight of 3·2 grammes. In nine cases of tuberculosis a similar fibrosis was found in six cases. One gland was unfortunately lost before the microscopical examination; in one there was but little fibrosis and in the third practically none. The ages of the children varied from three months to seven and a half years; all were wasted, many extremely so. The smallest gland weighed 30 grains and in this practically no fibrosis was found; the child was three months old, weighed 9 pounds 11 ounces, and had had convulsions due to meningitis for seven weeks before death. The largest gland weighed 153 grains and showed little fibrosis, but much fatty change. The child was seven years old, weighed only 28 pounds, and suffered from spinal caries and psoas abscess. The average weight of the thymus in the nine cases was 77·69 grains (5 grammes). Dudgeon's average weight in 28 cases was 3·065 grammes. Nine cases of chronic wasting disease, other than tubercle, were observed, including such conditions as congenital hypertrophic stenosis of the pylorus, congenital heart disease, chronic empyema, post-basal meningitis, &c. The ages of the children varied from one month to seven and a half years; they were all considerably below the normal weight for their age. The average weight of the thymus was 48·5 grains (3·14 grammes), the heaviest weighing 73 grains. This was found in a child, aged seven years and one month, who died from congenital heart disease. The lightest weighed 15 grains from a wasted child, aged one month, who died from suppurating spina bifida. In eight cases there was much fibrosis; in one it was practically absent. This was a case of hypertrophic stenosis of the pylorus. The child was aged two and three-quarter months and weighed 6 pounds 6 ounces post mortem (normal 11 pounds 8 ounces). The thymus weighed 54 grains. This may be considered a case of pure starvation and suggests that some other factor which is present in the condition known as marasmus is necessary for the production of the fibrotic thymus. A second case in this series of congenital stenosis of the lower end of the œsophagus[5] showed marked fibrosis of the thymus, but this case was complicated by the presence of a considerable degree of rickets and thus cannot be considered an example of pure starvation from the point of view now under consideration.

Fibrotic changes occurring in acute disease.—There are in my series 20 cases of children dying from acute disease such as pneumonia, diphtheria, peritonitis, acute diarrhœa and vomiting, &c. In six cases the fibrosis was absent or very slight, in three it was present but not at all well marked, and in ten it was considerable. In some of these cases other causes than the acute terminal infection may be found for fibrosis of the thymus. Two children were rickety; one who died from acute bronchitis had suffered from measles six months previously followed by bronchiectasis; one, a boy, aged seven years, dying from enteric fever, was brought into the hospital in a neglected condition and post mortem was much emaciated; one dying from septic broncho-pneumonia at the age of one year and 11 months was probably marasmic previously; and in one, aged 13 years, the atrophy of the thymus may have been entirely physiological. In the remaining four cases the children were described as well nourished in three instances, though in one the body weight was considerably below the average, and the remaining child, who died from diphtheria, was considerably wasted. If, therefore, the six doubtful cases are excluded marked fibrosis only occurred in four out of 14 cases of acute disease. The average weight for the entire 20 cases was 87·85 grains (5·7 grammes). Dudgeon's average of 33 cases was 5·044 grammes.

Hyperplasia of the thymus.—Seeing that the weight and size of the thymus may vary considerably without giving rise to any symptoms, it is difficult to say at what point hyperplasia may be considered to begin. It seems, however, tolerably certain that excessive size of the thymus is connected with certain symptoms, such as laryngismus and stridulous breathing in infants, and that it is associated with general hyperplasia of the lymphoid tissues of the body and not infrequently with rickets. Dudgeon found that in a series of 16 cases of infants dying suddenly or found dead the average weight of the thymus was 25 011 grammes, most of the thymus glands weighed more than 20 grammes, and three weighed more than 40, the largest being 47·05 grammes and occurring in an infant five months old. Hochsinger[6] examined 58 children of from one to two years of age radioscopically and found that 26 had obvious enlargement of the thymus, whilst in three the enlargement was only obvious by radiography. 20 of these children had laryngeal stridor. In 29 children apparently normal seven showed enlargement of the thymus when examined by the rays. In my own series there were only three cases which may be classed as possible examples of "lymphatism." The first was a child, aged two months, who had suffered from convulsions since birth; he appeared to be well nourished but was below normal weight; he became convulsed shortly after admission and died; the thymus weighed 114 grains, the lymphoid tissue in the intestines was slightly increased, and the spleen weighed three-quarters of an ounce (average weight at three months half an ounce). The second was a fat, slightly rachitic child, aged nine months, who suffered from laryngeal stridor, and died suddenly after four days in the hospital. Her weight was normal; the thymus weighed 232 grains (15·03 grammes). The lymphatic glands and the lymphatic tissue in the intestines were hypertrophied; the weight of the spleen is unfortunately not recorded; the heart was much hypertrophied, but there was no valvular lesion or congenital malformation. The cause of the hypertrophy is obscure; the thymus did not appear to exert any mechanical pressure on the great vessels.

The third case occurred in a well-nourished, fat child, aged ten months, who was admitted for a mild attack of diarrhœa and after 24 hours in the hospital died unexpectedly. The child was suddenly taken worse and for half an hour was somewhat cyanosed and very collapsed; the air entry over the whole chest, however, appeared to be normal. The thymus weighed 398 grains, the tonsils were slightly enlarged, and the bronchial glands were apparently normal. The mesenteric glands were enlarged and the spleen weighed one ounce (a little above the average). Peyer's patches were pale in colour but markedly hypertrophied the other organs were normal.

In none of these cases was there any evidence of intravascular clotting. The thymus glands were not fibrotic and were normal in appearance. The cytology will be dealt with in the next section. I have records of eight other cases in which the thymus was above the usual weight and size but in only two of these was the gland normal on microscopical examination. The first of these was a well-nourished child, aged six months, who was admitted for acute diarrhœa and vomiting with pyrexia. The child died in 24 hours. Post mortem the thymus was found to weigh 247 grains, the spleen weighed one ounce (about double the average weight), and Peyer's patches and the mesenteric glands were large and prominent. The second child died unexpectedly after diphtheria and tracheotomy. The child was one year and four months old and weighed 18 pounds 5½ ounces. Post mortem the tracheotomy wound was healthy and there was no membrane in the air passages. The thymus weighed 161 grains and the spleen one and a half ounces. The mesenteric and mediastinal glands were enlarged. Death in both these cases would naturally be regarded as due to toxic absorption, one acute and the other subacute; the conditions of the lymphatic system would also be ascribed to

[4] Rühräh: American Journal of the Medical Sciences, vol. cxxiv., p. 847, 1902.

[5] Rogers: British Journal of Children's Diseases, vol. i., p. 300, 904. Case described.)

[6] Hochsinger: Weiner Medicinische Wochenschrift, Band liii., Nos. 45 and 47, 1903.

the same cause. The three cases described as lymphatism seem to me to be capable of explanation on the same lines, the toxic absorption being merely more gradual, and the lymphatic enlargement being consequently of a more chronic character. The suddenness of death might be due to some extra absorption of the poisonous substance, just as in persons addicted to the use of alkaloidal poisons a rather larger dose than usual is occasionally fatal. That this view is a complete explanation is not for a moment suggested. The site of absorption or manufacture and the nature of the poison have alike to be determined, as has the reason for the spasmodic laryngeal affection occasionally present. It is, at any rate, no more difficult to believe that a rapid enlargement of the thymus may occur in some cases than to hold that a similar process takes place in the spleen, whereas in others the whole condition is produced more slowly. Whether a rapidly enlarged thymus might mechanically cause death does not seem certain; at any rate, in the third case classed as lymphatism, the air appeared to enter the lungs normally just before death, and it would appear more rational to ascribe death to a poisoning of the nervous centres.

PATHOLOGICAL HISTOLOGY.

1. *Fatty changes.*—The greater number of my sections were stained with Sudan III. and some also with osmic acid. Two forms of fat deposit were shown in these preparations—collections of fat droplets mostly among the strands of fibrous tissue and true fatty degeneration of the parenchymatous cells. Neither of these appearances were characteristic of any particular class of case; neither amount of fibrosis, the age of the patient, nor the disease causing death seemed to have any particular influence in their production. The fatty degeneration in the cells was in many cases limited to the peripheral zone of the lobules, in others it was general. The cells of Hassall's corpuscles occasionally showed fatty degeneration. The large majority of the thymus glands showed more or less fatty change in the cells.

2. *Degenerative changes in Hassall's corpuscles.*—All observers are agreed that many kinds of degeneration affect these bodies. Sometimes they become mere knots of fibrous tissue, sometimes calcareous or fatty. There is some difference of opinion as to whether true hyaline changes ever occur in them; Rührah maintains that hyaline change is common, but Dudgeon states that he has not been able to demonstrate its presence. The method used by both observers was staining by van Giesen's stain (picro-fuchsin), which colours true hyaline material bright pink. My own sections were hardened in Müller's fluid and subsequently frozen, then stained with acid hæmatoxylin, washed in saturated lithium carbonate and in water, stained with picro-fuchsin, and then rapidly washed in tap water. The great majority of degenerated Hassall's corpuscles were stained orange or brownish red but in a few cases bright crimson. According to this, therefore, true hyaline change occasionally occurs, though not very frequently.

3. *The eosinophile cells.*—Eosinophile cells were found in nearly all the glands examined, the exceptions being two cases of congenital heart disease, a case of enteric fever, and five cases of tuberculosis. In another case of tuberculosis very few eosinophiles were observed. In the three cases described as "lymphatism" the eosinophiles were very numerous, mainly lying in or near the connective tissue strands. Dudgeon has described four varieties which he considers characteristic of the enlarged thymus. I have found three of these—namely, (1) large cells with pale round, often eccentric, nucleus; (2) cells with a "transitional" nucleus; and (3) cells with the ordinary bipartite nucleus. The fourth variety with a very dark basophile nucleus I have only found in one case and that was in a small marasmic infant with a fibrotic thymus. There were, however, among the cells included in the first class some in which the nucleus stained more darkly than in others. I did not, however, find that the eosinophile cells described were peculiar to cases of enlarged thymus; all three varieties occurred whenever this type of cell was at all numerous. On the other hand, I have not noted a histologically normal thymus above 100 grains in weight in which these cells, or the variety described as occurring in tuberculosis, were not of frequent occurrence. In the five cases of tuberculosis the cells with eosinophile granules appeared in some cases to be replaced by cells with basophile or neutrophile granules. These cells were also occasionally seen in other cases.[†] In some cases large pale cells were seen with an indistinct granulation, which I think were merely degenerated forms, possibly due to post-mortem changes.

CONCLUSIONS.

1. The usual weight of a microscopically normal thymus in a child under one year is under 100 grains. 2. Children suffering from "primary atrophy" or marasmus commonly, but not always, exhibit fibrotic changes in the thymus; the weight and size of the organ are also usually diminished. 3. Children suffering from "secondary atrophy" exhibit similar changes but they are not so constant. 4. Possibly some other factor than mere malnutrition or starvation may produce these fibrotic changes, as in a case where pure starvation was produced by congenital stenosis in the alimentary tract they were not observed. 5. In cases of acute illness in children fibrosis of the thymus may accompany general wasting. It is difficult in these cases to exclude previous disturbances of nutrition, at any rate among hospital patients. 6. Enlargement of the thymus and other lymphatic structures in the body may occur as the result of acute toxic absorption (as in diphtheria) or a more chronic condition (as in lymphatism). In these enlarged thymus glands eosinophile cells are numerous but no special types are peculiar to either class. 7. In some conditions, especially in tuberculosis, cells with basophile or neutrophile granules seem to replace the eosinophiles. 8. In congenital heart disease eosinophiles are not found in the thymus. 9. True hyaline degeneration very occasionally occurs in Hassall's corpuscles. 10. Fatty degeneration of the cells is common and appears often to affect the peripheral zone of the lobules.

Clifton, Bristol.

[†] These granules were more apparent in sections mounted in Farrant's solution. In those which had been dehydrated and mounted in balsam the granules appeared more eosinophile in character, but unfortunately none of these sections have retained their colour well.

A CASE OF PNEUMONIA WITH AFFECTION OF THE CRANIAL NERVES; RECOVERY.

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A GIRL, aged 11 years, was admitted to the West London Hospital on July 27th, 1905, under the care of Dr. A. E. Russell, the history, as obtained from the mother, being that the child had always been delicate and frequently complained of headache. She had suffered from no recent illness, previous ones being bronchitis, discharge from the right ear, and enlarged tonsils which had been removed three years ago. On the afternoon of July 24th she vomited three times and since then had retained hardly any nourishment. During the previous night she had "talked nonsense in her sleep" and the bowels had not acted for four days.

On admission the child looked acutely ill. She lay on her back, with flushed cheeks, dry skin, and moving alæ nasi. The lips were parched and covered with sordes; the tongue was dry and coated along the dorsum with brownish fur. She could just answer questions but speedily relapsed into a semi-comatose condition, resenting any attempt at disturbance. The physical signs then present were absolute dulness sharply limited to the region of the upper lobe of the right lung, with corresponding increase in vocal fremitus and resonance and high-pitched bronchial breathing. There was some tenderness on pressure over the abdomen with slight tympanites, neither liver nor spleen being enlarged. Widal's reactions on two occasions proved negative. The urine was concentrated with presence of albumin and diminution in chlorides. The temperature on admission reached 105° F., the pulse was 120, and the respirations were 40 per minute. By the morning of the 29th the temperature had fallen by crisis to 98°. During this time there were wandering delirium at night and vomiting after each attempt to give nourishment or medicine. The abdominal tenderness had now disappeared. On July 30th it was necessary to employ nasal feeding which was discontinued on August 1st. During the last two days of July two petechiæ appeared on the left leg, one 1·0 by 0·5 centimetre, the other 0·3 centimetre in diameter,

there was resistance to movement of the child's head forwards and from right to left, and she lay with her head turned towards the right. Trismus was next noted and on percussion or pressure over the right mastoid region the patient winced very distinctly. On July 31st a variable squint developed, so that when the left eye was looking straight forwards the right eye was directed inwards; later in the day there was conjugate deviation to the right and upwards. The trismus had by this time disappeared and on crying the left side of the face was seen to be paretic. The abdomen was retracted. The knee-jerks were almost entirely absent in bed, being elicited once only in the left lower limb. There was no ankle clonus or Babinski's sign; Kernig's sign was present equally on both sides. Nothing abnormal was discovered in the fundus of either eye; the right pupil had been larger than the left since admission. At 8.45 P.M. lumbar puncture was performed, about 20 minims of clear fluid being drawn off, which, on bacteriological examination, was found to be sterile. On August 1st a fresh petechia appeared on the flexor surface of the left forearm. In the evening the patient lay for the first time on her left side, the breathing being fuller and less shallow. A short and irritative cough at this time appeared, the dulness still remaining the same at the right apex with distinct bronchial breathing, and the few fine crepitations in evidence on the previous day had now become clearer and more ringing. On the 2nd crackling crepitations were heard as low as the fourth rib and the fifth spine on the right side, and an area of impaired resonance appeared below the dulness previously noted. The breathing became less harsh and the child was now much more conscious. Malar flush was present on the right side and the cough was short and dry. During the afternoon the child became worse, looking cyanosed, and the cough became more incessant. A patch of commencing consolidation was found at the right scapular angle. Crepitations had also spread over most of the anterior surface of the right lung and there were some fine crepitations also in the left lung. On the 3rd there were some distant bronchial breathing at the left apex and a patch of impaired resonance in the right axillary region with a few crepitations, others also being discovered posteriorly over the lower part of the left inferior lobe. On the following day crepitations were scattered over both lungs, being louder on the right. The percussion note was tympanitic at the right apex, bronchial breathing being still present at both apices but less marked on the right. On the 5th subcutaneous emphysema appeared over the left side of the chest and the neck and as low as the second rib on the right, disappearing on the following day. The signs in each lung gradually diminished till on the 14th only impaired note and bronchial breathing at the right apex, more marked anteriorly, were left. Since admission the hair over the occipital region fell out, so that on this date the patient was almost bald over a patch 12·5 centimetres by 6 centimetres. She was discharged on the 19th feeling well, the only physical sign which persisted being slight loss of resonance at the right apex. On seeing the child a fortnight later slight pain and tenderness of the right ear were complained of, associated with slight discharge and deafness. I am indebted to Dr. Russell for kind permission to make use of the above notes.

Remarks.—The following are the chief points of interest in this case: (1) the marked cerebral nature of the attack, as evidenced by affection of cranial nerves, with resulting squint and facial weakness; (2) the irregularity in the temperature subsequently to the crisis, accompanied by spread of disease in the lung first affected, with further extension to the other lung; and (3) the rapidly-changing clinical picture. Throughout the progress of the above case it was at all times difficult to determine the relative importance of the symptoms and physical signs. Thus for the first two days after admission, owing to the abdominal tenderness and tympanites, it was uncertain as to whether enteric fever might not be the original disease and the pneumonia a complication thereof, the torpor, mental confusion, and wandering at night being also suggestive. This possibility having been eliminated the diagnosis appeared to lie between cerebral pneumonia, meningitis (simple or tuberculous) with consolidation of the lung, and acute pneumonic or generalised tuberculosis, or a combination of some of the above conditions. The idea of acute tuberculosis was to some extent borne out by the spread of disease from one lung to the other with associated cyanosis. Breath sounds, however, were marked over the consolidated pulmonary area and the subsequent history disproved this hypothesis. No direct evidence in favour of tuberculous meningitis was forthcoming, against this being the initial pyrexia with rapid succession of signs and symptoms, and although only quite a small quantity of cerebro-spinal fluid was withdrawn the child rapidly improved. The strabismus, perhaps, deserves special mention. In the literature of ordinary lobar pneumonia I can find no mention of squint as a complication and, except as an expression of coincident meningo-encephalitis, it is questionable whether it occurs. I am told, however, on good authority that the late Dr. James Andrew in the course of his lectures on medicine at St. Bartholomew's Hospital at the end of a long list of complications of acute pneumonia, used to mention as being very rare squints and ulceration of the cornea. In children apical pneumonia of cerebral type is by no means infrequent and "cerebral symptoms may so predominate at the beginning that some difficulty may be experienced in eliminating meningitis. ..... The usual respiration pulse ratio of 1 to 4 is more apt to be maintained in meningitis than in pneumonia, where it often reaches 1 to 2. Respiration is not usually so rapid in meningitis, nor will there be present that appearance of breathlessness, expansion of alæ, and dark-red flush in one cheek."[1] In the present case the respiration-pulse ratio was about from 1 to 3½, the other symptoms mentioned also being present. The train of symptoms which the child exhibited seemed too severe to be due merely to toxæmia as a result of the pneumonia, but suggested a true lepto-meningitis. In favour of this were the headache, vomiting, and constipation, the stupor and delirium, petechiæ and herpes, lesions of nerves at the base of the brain, stiffness and slight resistance to forward flexion of cervical muscles, and Kernig's sign. As regards the assumption that the above symptoms were due to an infection by the diplococcus intracellularis in this connexion it is interesting to find that observations made by Dr. R. C. B. Wall[2] upon a series of cases support the view that epidemic cerebro-spinal meningitis, cervical opisthotonos of infants, and posterior basic meningitis are identical in their etiology. Further, Dr. J. W. Carr[3] in a paper on Posterior Basic Meningitis points out that intermittent strabismus is extremely common and ascribes it to implication of the oculo-motor nerves in the accumulation of inflammatory products in the basal arachnoid cisterns. With reference to diplococcus intracellularis infection Osler[4] remarks that "it does not seem possible to determine whether in such cases pneumonia is the primary disease and the meningitis secondary or *vice versâ*." Against the pneumonia being of true pneumococcal type is the fact that after the crisis there were irregular patchy infiltration and consolidation of the hitherto unaffected lung tissue. In children "pneumonia" and "bronchopneumonia" so closely overlap that I do not propose to discuss this point further except to say that throughout this case the type of the affection was lobar; that a definite crisis, although prolonged, did occur; and that herpes and unilateral malar flush were present. Councilman[5] says: "All my experience leads me to the belief that, with rare exceptions, cases of primary meningitis are due to the diplococcus intracellularis. ..... Cases due to the pneumococcus or streptococcus are usually secondary and the mortality in secondary meningitis is much higher than in the primary form. Up to 1898 we could not find a case in which the culture of fluid from spinal puncture showed pneumococci or streptococci in which recovery took place. ..... I believe that the frequency of pneumococcus meningitis is greatly over-estimated and especially its frequency secondary to pneumonia." The subsequent deafness which the child exhibited is by no means an infrequent sequela of cerebro-spinal meningitis. In 64 cases of meningitis which recovered Moos[6] found that 55 per cent. were deaf. Despite the absence of confirmation by necropsy and the negative result of the fluid obtained by lumbar puncture the facts that the child recovered, that affection of the cranial nerves occurred, and that a few petechial spots were present appear to justify consideration of the possibility of the case being due to infection by the diplococcus intracellularis.

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[1] MacDonald: The Diagnosis of Pneumonia in Children, Pediatrics, vol. xvii., No. 4, p. 199. New York, April, 1905.
[2] Wall: On Acute Cerebro-spinal Meningitis caused by the Diplococcus Intracellularis, Transactions of the Royal Medical and Chirurgical Society, vol. lxxxvi., 1903, p. 60.
[3] Carr: On Posterior Basic Meningitis, ibid., vol. lxxx., 1897, p. 303.
[4] Osler: Text-book of Medicine, 1901, p. 106.
[5] Councilman: Journal of the American Medical Association, vol. xliv., April 1st, 1905, p. 997.
[6] Osler: Text-book of Medicine, 1901, p. 106. Vide also p. 1056.

A METHOD FOR THE DETECTION OF FLAWS IN NOMINALLY AIR-TIGHT SEALED GLASS VESSELS.

BY EDWIN MAYNARD, M.R.C.S. ENG., L.R.C.P. LOND., D.P.H.

I WAS working as an assistant in the Plague Research Laboratory in Bombay in the autumn of 1902 when the lamentable accident at Mulkowal in the Punjaub occurred whereby 19 men were killed by being inoculated with the contents of a bottle of Haffkine's plague prophylactic which had become contaminated with tetanus before reaching the inoculator. As soon as my then existing engagement with the Government of Bombay had expired I resigned so that I might be free to come to England to work out the details of a method of filling bottles with fluid intended for inoculation, the principle underlying which I had thought out soon after the Mulkowal accident had happened. The object which I had in view was to fill the bottles in a small, closed sterile chamber connected with the vessel containing the fluid. As an additional safeguard the purity of the contents of each bottle was to be verified by a sample being taken from each bottle without opening the bottle. I am of the opinion that I have achieved the objects I had in view and the whole apparatus and method of using it have recently successfully passed a thorough trial on a very large scale in the principal Government bacteriological laboratories in India.

I am indebted to Mr. Haffkine for having shown that however good a system of filling and sealing bottles may be there remains a risk—quite appreciable though small—that a certain proportion of these sealed bottles may have a flaw in the glass situated almost invariably at or near the point where the glass has been fused for closing the bottle. Mr. Haffkine very kindly showed me several bottles which he had received in Bombay from various continental laboratories in which such flaws existed, the flaws being too small to be detected by the ordinary methods of examination but being sufficiently patent to have allowed the contents of the bottles to become contaminated, and only from this fact had the presence of the flaws been suspected. I believe it is quite possible that many of the cases of untoward results which have followed inoculation may be explained by the presence of such flaws in the bottles which contained the fluid used for the inoculation which have led to the contamination of the fluid. It would also be of interest to know to what tests sealed test-tubes containing broth which has shown the presence of living organisms subsequently to sterilisation had been subjected to show that their glass was without minute flaws.

I have recently designed an apparatus, extremely simple and easy to work, which will show the presence of any flaws in the glass above the level of the fluid contained in the bottle, provided the flaw be sufficiently large to allow air under a pressure of about 14 pounds per square inch to pass through it, and will also show the presence of any flaw below the level of the fluid contained in the bottle, provided such flaw be large enough to allow the passage through it of a film of the fluid contained in the bottle under the same pressure. It is difficult to imagine the existence of a flaw which will allow the passage of micro-organisms into a bottle and which will not be detected by the apparatus.

I would not trespass on the space of THE LANCET were I not firmly convinced of the reality of the danger which this flaw-finding apparatus is intended to remove, and did I not feel it my duty to place the method at the disposal of all who are responsible for the purity of fluids issued for purposes of inoculation.

The apparatus consists of: 1. A cylindrical glass vessel one end of which terminates in a ground flange making an air-tight joint with a disc of thick plate glass and the other end of the cylinder being continued into an oblate hemispheroid. As near the ground flange as is convenient is a short tubulure holding a rubber plug centrally perforated. Through this plug passes a piece of glass tube bent upwards at a ⌊, the inner arm passing up parallel to, and near, the cylinder, to end immediately below the inner edge of the ground flange.

2. Copper wire baskets circular horizontally and with detached circular covers. These baskets are made with wire gauze bottoms and two layers of square meshes which serve to hold the bottles to be tested vertically in the baskets. The loose covers have the same number of meshes as the baskets but the meshes are smaller so that the shoulder of each bottle is embraced by a mesh of the cover. Each mesh of the cover is numbered so that each bottle can be easily identified. The basket is provided with three small hooks placed at equal distances apart and attached to the edge of the basket by short pieces of indiarubber cord, these hooks serving to hold the cover in position. The outside of the basket is provided with three rather thick pieces of rubber cord placed axially at equal distances apart and serving to prevent the basket of bottles from moving in the glass vessel whatever position the latter is made to assume, the rubber cord at three points filling up the space between the glass cylinder and the basket.

3. A good air pump or other means of producing a vacuum and a vacuum gauge, both of these being connected with a vacuum chamber which is also connected with the glass vessel described above, the connexion being made by means of a piece of pressure tubing of a length sufficient to allow a complete rotation of the glass vessel.

Method of using the apparatus.—A basket of the bottles to be tested is placed in the glass vessel which is then filled up with clean cold water (from which all air has previously been removed by boiling) to a point just below the open end of the glass tube described above. The ground flange of the vessel is smeared with tallow or resin cerate and the plate-glass cover put on. Communication is now made between the glass vessel and the vacuum chamber which has previously been exhausted of air to a point near the vapour tension of water at the temperature of that in the glass vessel. An inspection of the bottles in the vessel is now made and this is best carried out by looking at the rows of bottles through the cylindrical sides of the vessel, this acting as a strong convex lens. Any flaw in any of the bottles above the level of their contained fluid is now revealed by the passage through the water of a stream of bubbles of air which, being at the ordinary atmospheric pressure, is exerting an expansive force on the inner surface of each bottle of about 14 pounds per square inch. Having finished the inspection of the upper parts of the bottles, which takes only a few seconds, the glass vessel is turned on its side with the projecting glass tube touching the table. The whole vessel is then slowly rotated or rolled on the table until the glass tube again reaches the table during which time close watch is kept on the surface of the water in the vessel for rising air bubbles. Unless the projecting tube is needlessly long or the air contained in the bottles is very small in amount this rotation of the vessel will have served to bring every part of the inner surface of each bottle (except a circular area at the top and bottom of the bottle) into contact with the air contained in the bottle and any flaw will be shown by escaping air. Finally, the vessel is inverted to allow flaws in the bottoms of the bottles over the area hitherto covered with fluid to be detected.

A SERIES OF CASES OF LEAD POISONING DUE TO HARD WATER.

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LEAD POISONING due to the action of potable water on lead pipes and cisterns has been so common that it would almost appear superfluous to report other cases, but practically all the recorded cases have been due to the use of very soft moorland waters, and it does not appear to be realised generally that hard well-waters occur in certain districts which are capable of taking up poisonous quantities of lead. I have repeatedly directed attention to the fact that water from the Bagshot sands contains so small an amount of carbonate that it dissolves appreciable quantities of lead, but during recent years I have found waters from gravels not classed by the Government geologists as belonging to the Bagshot sands which are of a similar character and which have seriously affected the health of persons using them and it is possible that they occur in many localities besides Essex.

Within the last few weeks I have had occasion to examine a water from a shallow well, which contained a very appreciable amount of lead and which had caused serious symptoms of poisoning in three out of four members of the family using it. The family consisted of a widow lady, her child and governess, and a maid. Four years ago the lady took a country house, the water-supply of which was derived from a well in the garden. About 18 months ago she exhibited symptoms of what was supposed to be gout and was sent to Buxton, where she became accustomed to drinking rather considerable quantities of hot water. Upon returning home she continued this practice only to find the "gouty" symptoms increased in intensity. She became very anæmic, suffered from colic and constipation, and finally had intense pain in the occipital region. The governess also suffered from anæmia, colic, and constipation, the last being so severe that at one time the question of some operation being performed was discussed. The maid did not suffer so severely and the child, who drank distilled water only, was not affected. Lead poisoning as a cause of all these symptoms does not appear to have been suspected until the lady's gums became very tender. These were then examined and the blue line pathognomonic of lead poisoning discovered. The same line was then found on the gums of the other patients. The source of the lead was at first a mystery but ultimately two samples of the water were submitted to me for analysis taken from two different pumps on the premises drawing from the same well. One was found to contain 0·65 grain of lead per gallon and the other 0·30 grain. Samples of water which had stood in the pump pipes all night gave 1·8 and 1·4 grains of lead per gallon respectively. When the water was allowed to stand 24 hours in contact with a piece of bright sheet lead it dissolved as much as 8·8 grains of the metal per gallon, the water remaining quite clear. Both the pumps referred to had long lead suction pipes leading to the well. One pump was over the kitchen sink and supplied the drinking water; the other was a force pump driving the water into the cistern supplying the bath, &c. Although the latter had a longer pipe attached to it it yielded water containing less lead, which fact I attribute to the pump itself being of gun-metal, whereas the kitchen pump was of lead and worked with a good deal of friction.

The analysis of a sample of the water taken directly from the well gave the following results in parts per 100,000: Pb, 0·3; Ca, 7·3; Mg, 0·75; K, 1·6; CO_3, 0·9; SO_4, 8·35; Cl, 8·7; NO_3, 15·1. The combinations were probably as follows:—

Lead carbonate	0·4
Calcium carbonate	1·35
Calcium sulphate	11·85
Calcium chloride	9·05
Magnesium chloride	2·9
Sodium chloride	1·25
Potassium and sodium nitrates	21·35
Total saline constituents	48·15

The carbonates would be retained in solution by the excess of carbon dioxide in the water. 100 cubic centimetres of the water contained 0·7 cubic centimetre of free oxygen and 1·9 cubic centimetres of free carbonic acid (over and above that necessary to convert the carbonates into bicarbonates). Like all other waters which dissolve lead the amount of carbonates present was very small and the water had an acid reaction to litmus, lacmoid, cochineal, and phenol phthalein, but not to methyl-orange. After boiling in a platinum vessel it became neutral but the boiled water acted as vigorously upon the lead as the unboiled.

I have since examined three other well waters from the same locality and find two of them have a similar action and there is reason to believe that other families have been affected by the lead. In such cases where another source of water-supply is not available I have recommended the removal of all lead piping and the introduction into the well of a load of clean chalk. The latter is necessary to absorb the carbonic acid and to prevent the oxidation of iron pipes, as waters which act on lead also corrode iron and dissolve zinc (from galvanised iron). The chalk appears to prevent this action or to minimise it to such an extent that the water does not become unsightly in appearance. The addition of two or three grains of carbonate of soda to a gallon of the water did not entirely neutralise the plumbo-solvent power but reduced the amount dissolved in 24 hours from 8·8 grains to 0·5 grain. Digestion for an hour with chalk reduced the action but not nearly to the same extent. Notwithstanding the immense amount of work which has been done to elucidate the action of water on lead, both erosive and solvent, all theories so far advanced fail to explain the whole of the facts, but this is a subject which I purpose to discuss later. My present object is merely to direct attention to the possibility of lead poisoning being due to waters not generally regarded as being capable of dissolving that metal.

Chelmsford.

A CASE OF LARGE CHYLOUS ABDOMINAL CYST; OPERATION; RECOVERY.

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IN THE LANCET of March 4th, 1905, is quoted a case recorded in the *Boston Medical and Surgical Journal* of Feb. 9th, 1905, of a "rare condition of chylous cyst of the abdomen." This case quoted was in a boy, aged 11 years. For two years there were symptoms of pain, wasting, and accumulation of fluid in the abdomen, and a provisional diagnosis of tuberculous peritonitis was arrived at and an operation was undertaken; a large vascular-walled retro-peritoneal cyst was found containing a gallon of chylous fluid. The sac was separated carefully from the ascending colon, hepatic flexure of the colon, and vertical portion of duodenum. Whether the cyst was a dilatation of the receptaculum chyli or of one of its tributaries could not be made out. The boy made a complete recovery. The fluid was milky, of specific gravity 1020, and contained fat globules.

The following case taken from my surgical note-book bears so close a similarity to the above that there seems little doubt that the two were similar in origin. A coloured male, aged 20 years, was admitted into Somerset Hospital on May 26th, 1905, with a history of four years' pain in the stomach and bowels and gradually distending abdomen. Examination showed the abdomen generally to be distended; it was very dull over the lower and middle parts of the abdominal walls and there was some dulness in the flanks, which did not vary with alteration of position. There was only a small tympanitic area under the liver and upper part of the abdominal wall. Liver dulness was much diminished. Pain on pressure was present over the hypogastric and umbilical regions. There was no elevation of temperature or general wasting of the body. A provisional diagnosis of encysted collection of fluid, probably tuberculous peritonitis, was made. (N.B.—This was the same diagnosis as was come to in the American case quoted above.)

Operation.—An incision was made in the middle line midway between the umbilicus and symphysis. The abdominal wall was very rigid even under an anæsthetic. The peritoneum was thickened. On opening into the peritoneal cavity a little blood-stained serum escaped. No intestines were visible but beneath the fingers was a large uniform swelling apparently filling the whole abdominal cavity, the surface of which looked like congested bowel and gave the impression of peritoneum closely adherent to congested bowel. This membrane was opened and a large quantity of milky chylous fluid gushed out, showing the doubtful membrane to have been the sac wall of an enormous cyst which extended from the pelvis to right up under the liver, pressing the intestines into an extremely small compass. There were one or two subdivisions to the large cyst, making it apparently multilocular. In the cysts were also large quantities of pink jelly-like material and also a mass of the size of a large lymphatic gland filled with a fatty substance looking like thick cream. The walls of the cyst were adherent to the ascending colon near the appendix and to the transverse colon where there appeared to be a sort of pedicle attached to the reflection of the transverse mesocolon. Near this point of attachment was a knotted tumour of about the size of a Tangerine orange, looking like an inflamed lymphatic gland in consistence. This gland and as much of the cyst wall as could be safely detached, together with all contents, were removed and the abdominal cavity was freely flushed with saline solution. The abdomen was finally filled with saline solution and stitched up.

The patient made an uninterrupted recovery. Two weeks

after the operation a small cheesy mass came away from a corner of the abdominal wound and the wound then healed and remained sound. Presumably this was a little of the cheesy contents of the cyst which had escaped removal.

I am not in a position to say definitely what the origin of this cyst was, but in view of the case quoted above and the character of the contents of the cyst it seems to me probable that it was of lymphatic origin. A microscopic examination of the sac wall and contents gave nothing definite and the fluid was as described in the American case.

Cape Town.

CHRONIC PARALYSIS OF THE INTERCOSTAL MUSCLES AS A PRIMARY CAUSE OF DROPSY.

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DEMONSTRATOR IN PATHOLOGY, UNIVERSITY OF TORONTO.

THIS case is of the greatest interest, both to the neurologist and to the student of cardiac physics from the occurrence of several rare conditions.

The patient, a lad, aged 17 years, was injured four years ago by a blow on the neck, producing a dislocation of one of the cervical vertebræ. Myelitis followed, affecting the fifth, sixth, seventh, and eighth cervical regions of the cord, being probably secondary to small hæmorrhages arising from the concussion due to the injury. Sensation was rapidly recovered but atrophy of the muscle groups represented in this region gradually occurred, accompanied by a spastic paralysis of the legs. Respiration during these four years had been carried on entirely by the diaphragm, since the intercostal as well as the abdominal muscles were paralysed; and this was the more remarkable when it is noted that the boy suffered last year from an attack of acute bronchitis, with consequent difficulty in expectoration. It is also interesting to note that the patient was able to cough feebly but in doing so was unable to fix the chest, which expanded upwards with the forced expiration. In consequence of this purely diaphragmatic respiration there was diminished expansion of the upper lobes of both lungs and this had acted in the same manner as emphysematous or fibroid pulmonary diseases and caused obstruction to the venous circulation and to the right side of the heart, although the venous obstruction might be partly due to a diminution in the negative intrathoracic pressure. During the last few months the legs had become greatly swollen, the dropsy being due mainly to the conditions outlined above rather than to the diminished vaso-motor tone, since the complication had only recently appeared. Following this very intense œdema had appeared in the neck, face, and eyelids and latterly in the uvula and larynx and the distress in breathing had been great.

On keeping the patient entirely in bed the dropsical condition of the legs rapidly improved, while the parts supplied by the superior vena cava became at first much more swollen but finally improved also.

At the present time there is no definite enlargement of the heart, no murmurs are present, but naturally there is reduplication of the second sound on the left sterno-costal areas, and the heart is also subject to additional strain owing to the extreme action of the diaphragm. The kidneys and other organs are normal.

In conclusion, it may be noted that paralysis of the intercostal muscles is a primary cause of dropsy, being probably the rarest of the respiratory agencies which produce this disease; also that a patient may live for years by means of diaphragmatic respiration alone but that ultimately the circulation will fail through the right side of the heart and general œdema follow.

Toronto.

MOUNT VERNON HOSPITAL: POST-GRADUATE COURSE.—Dr. Harry Campbell will deliver the introductory lecture of the course at the central out-patient department, 7, Fitzroy-square, W., on Thursday, Oct. 12th, at 5 P.M. The subject is the Enlargement of the Chest in Pulmonary Disease. Medical practitioners and senior students are invited to attend.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF ACUTE DILATATION OF THE LEFT VENTRICLE.

BY T. NICOL, M.A., M.B., CH.B. EDIN.,
ASSISTANT MEDICAL OFFICER, MONSALL HOSPITAL, MANCHESTER.

ACUTE dilatation of the heart consequent on an attack of diphtheria is an occurrence which has been much diminished in frequency by the use of antitoxin, and an account of a case which presented some unusual features may prove of interest.

The patient, a boy, aged five years, was admitted to Monsall Hospital suffering from an attack of faucial diphtheria of moderate intensity. He had been ill a fortnight but antitoxin had not been given. A week later he presented some signs of palatal and ocular paralysis but no indication of any cardiac disturbance. The accidental introduction of a case of scarlet fever to the ward exposed him to that infection, and he took what was apparently a mild attack from which he soon seemed in a fair way to recovery. One morning, however, six weeks after the onset of diphtheria and three weeks after that of scarlet fever he was seized by a sudden and extremely severe syncopal attack. When seen he looked pale, listless, and almost moribund; there was frequent vomiting, his pulse was almost imperceptible, and his temperature rose rapidly to 103° F. His heart (which had been carefully examined the previous day and found to all appearance normal) showed extreme left-sided dilatation. The apex beat was diffuse and wavy, visible in the fourth, fifth, and sixth interspaces from the nipple line to the sternum. On auscultation the beats numbered 110 per minute and were markedly intermittent, the first sound at the apex almost inaudible but without definite murmur, and the second much accentuated and occasionally reduplicated in both pulmonary and aortic areas. On percussion the left border extended almost three fingers' breadth beyond the nipple line, the right being in its normal position. No reason could be assigned for the attack, since the child had not been sitting up or making any unusual exertion. That evening, however the urine was found to contain albumin and blood in large amount, with numerous blood and granular casts. He was freely stimulated with brandy and hypodermic injections of strychnine, but his condition remained extremely critical for more than a week. After that time both the nephritis and the cardiac condition improved under treatment, and after a prolonged stay in hospital he was discharged with only a faint trace of albumin in the urine and a heart in which the most careful examination could detect nothing abnormal, the pulse strong and regular, the sounds pure, and the left border one finger's breadth inside the nipple line.

The special points of interest in the case would seem to lie in the exciting cause of the dilatation, not, as it usually is, some slight over-exertion, but the vascular disturbance associated with the onset of an acute scarlatinal nephritis; and the completeness with which a heart, at one time apparently irreparably damaged, eventually recovered.

For permission to publish the notes of the case I am indebted to Dr. A. Knyvett Gordon, medical superintendent.

Manchester.

CHOREA DUE TO A THUNDERSTORM.

BY JOSEPH A. W. PEREIRA, M.D. BRUX., L.R.C.P. LOND., M.R.C.S. ENG.

A BOY, three years old, was brought to me a short time ago because he could not speak without stammering. Having known the child ever since his birth and being aware that he was a good talker, this sudden stutter was of great interest to me. He had lost the necessary control over his tongue and lips. The child's past history was briefly this. He was a healthy baby at birth. He was reared on cow's milk and had had two mild attacks of bronchitis. He was

now somewhat anæmic and presented slight signs of rickets. The present history was that on the night of August 14th a severe thunderstorm broke over Exeter and constant flashes of lightning and peals of thunder were seen and heard throughout the whole night. The child was terrified and could not be got off to sleep. Early the next morning the mother noticed the difficulty in speech. This increased as the day wore on so she sought advice. The advice proffered was to buy the child some new toys and to give him a little more petting than he was used to. The stammering was completely gone on the fourth day.

Dr. H. A. Hare, in his "Practical Diagnosis" (p. 633) says: "If an incoherent speech develops in a child who is not suffering from an acute illness causing delirium there will usually be found in association with this symptom the nervous twitchings of chorea, for speech disturbances occur in about one-third of the patients suffering from this disease." In my case the nervous twitchings were limited to the muscles of articulation alone and apparently formed the only manifestation of chorea. Discussing the etiology of the disease Dr. Hare writes: "It often follows fright, prolonged bad weather, and other causes which may upset the nervous balance of the child" (p. 572).

The causal relationship of rheumatism to chorea is taking such a hold on the profession that I think it worth while to record every case where we have a distinct cause other than the rheumatic poison. In this case the exciting cause was fright acting on a nervous organisation weakened by rickets. In THE LANCET of Sept. 19th, 1903, p. 824, I related a case traceable to the tapeworm. Dr. G. F. Still in an article on chorea in the "Medical Annual" for this year says that James Burnet has instanced two other cases due to the same cause. Dr. Still himself, though a believer in the rheumatic origin of chorea, says: "The disease may come on quite suddenly, as in a child who whilst out playing in apparent health suddenly stumbled and on returning home was already affected with severe chorea. In these acute cases the cure is often rapid." It was so in my case.

Exeter.

TWO CASES OF BILATERAL CONGENITAL DISPLACEMENT OF THE HIP IN SISTERS.

BY L. A. PARRY, M.D., B.S. LOND., F.R.C.S.,
ASSISTANT SURGEON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, BRIGHTON.

CONGENITAL displacement of the hip is not of very frequent occurrence and the fact of two sisters being affected with this deformity is of sufficient rarity to justify publication. I think the term "displacement" superior to "dislocation," for as Tubby in his work on Orthopædics says, the latter should be reserved for "separation of those parts which have been normally in contact. If through an error of development such contact has at no time occurred I take it there can be no dislocation." Of all forms of congenital displacements of joints that of the hip is far the most common. In the work quoted it is said that it is extremely rare to find any other joint but the hip at fault, that 86 per cent. of the cases are in females, and that 60 per cent. are unilateral. Cheyne and Burghard dispute the last estimate, considering the bilateral form the most common. In making a diagnosis a distinction must be made between cases due to traumatism at birth and cases of true congenital displacement, which is due to defective development of the parts. The chief points are as follows: The head of the femur is on the dorsum ilii (sometimes on the pubes), the trochanter is above Nélaton's line, and there is free and painless movement of the joint.

My two cases, which were sent me by Dr. A. C. Gurney of Eastbourne, were in two sisters, aged ten and eight years respectively, the sixth and seventh children of a family of 12. No others presented any peculiarities. The deformity was noticed in each case since birth. In the elder sister the appearance was well marked and quite characteristic. The head of each femur, which was about normal in shape, was on the dorsum ilii, movements in all directions were free and quite painless, lumbar lordosis was conspicuous, the gait was waddling, the thighs were shortened but not adducted, and the toes were straight forward. The bone could be moved up and down on the dorsum for about an inch. The child could walk a fair distance without any pain, but got tired if she went far. This difficulty in walking was not increasing. In the second child the signs were not so well marked, the heads of the bones were not displaced quite so much on the dorsum, but a good deal of pain in the right leg was felt on walking. No other deformities were present and the mental condition was good. A skiagram showed the displacement well. The mother thinks her last child is affected in the same way. I have not seen this one, so can express no opinion about it.

As regards treatment, the age of the two girls is too great for any extension apparatus or for Lorenz's bloodless operation to be of service, and the results of an open operation are much too uncertain to justify interference, considering that they can walk a good distance without a great deal of inconvenience.

Hove.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

SHEFFIELD ROYAL HOSPITAL.

TWO RARE BLADDER CASES: "COMPLETE" INVERSION OF THE BLADDER AND CONGENITAL DIVERTICULUM FROM THE BASE OF THE BLADDER.

(Under the care of Mr. GEORGE WILKINSON.)

CASE 1. *Complete inversion of the bladder.*—A female child, aged three years, was taken to Mr. Wilkinson's out-patient department at the Sheffield Royal Hospital on March 28th, 1904, on account of "something coming down in the shape." On inspection a protrusion from the vulva was seen, dark purple to black in colour, flaccid, smooth, and of the size of a walnut. This had appeared on the evening of the 24th. The mother could give no history save that the child had come to her crying and saying that a lump had appeared "in the shape." An anæsthetic was given and a closer examination was made. The protrusion was found to be attached in the anterior part of the vulva and the little finger passed by the side of the pedicle traversed the urethra into the bladder. The pedicle was definite and sprang from the anterior wall of the bladder and was of diameter no greater than a crow's quill where it passed through the urethra. The tumour was strangulated at the orifice of the urethra and was gangrenous. It was thought to be a polypus and as it was gangrenous it was decided to ligature and to remove it. The tumour was drawn down so that the pedicle was partly withdrawn from the urethra and a silk ligature was tied firmly around the highest part that could be reached well above the "line of demarcation" of the strangulated portion, which was then cut away. The ligature was left protruding from the urethra. When the tumour was cut into it was found to be hollow right up to the pedicle. It was then recognised to consist of inverted bladder wall. The lining of the internal space was fairly smooth, being probably the outer surface of the muscular coat of the bladder. As far as could be judged in the altered condition of parts due to gangrene it was not peritoneum. The prolapse was of the anterior wall of the bladder where uncovered by peritoneum.

A section of the wall of the protrusion was cut for Mr. Wilkinson by Mr. Graham S. Simpson, the house surgeon. Owing to the sloughing condition of the specimen it did not stain and showed practically no details of structure under the microscope. Mr. Wilkinson was unable to recognise either mucous membrane or muscle fibres.

The child remained in hospital till April 19th. She had no bad symptoms. She micturated frequently but had no incontinence. Before discharging her she was again examined under an anæsthetic. The interior of the bladder appeared to be quite even and normal. She was seen again by Mr. Wilkinson a fortnight later at the out-patient department and had continued well in every respect and was able to retain her urine.

CASE 2. *Suppurating congenital diverticulum of the bladder.*—The patient was a girl, aged seven years, an inmate of an orphan home, who came under the charge of Mr. Wilkinson at the Sheffield Royal Hospital on Feb. 17th, 1904. During the two years that she had been at the orphange she had suffered from incontinence of urine but was otherwise healthy until three weeks before admission, when she had a fall on to her back; since when she had passed "blood and matter" in the urine. On admission she seemed to be seriously ill. The temperature was 101° F., the pulse was 146, and the respirations were 28. The labia were in a sloughy condition and the skin of the vulva and around the anus was covered with pustules and highly inflamed. The urine, of specific gravity 1010, was alkaline, offensive, and contained much blood and pus. There was a rounded, tender swelling in the hypogastrium, rather to the right of the middle line. A catheter was passed but less than an ounce of urine was withdrawn which did not cause any perceptible diminution of the swelling. An anæsthetic was given and a rectal examination was made. A definite round swelling was felt behind, and above, the bladder, pushing the uterus over to the left. When pressure was made on this swelling pus flowed from the urethra. A diagnosis of suppurating urethral cyst or suppurating ovarian tumour communicating with the bladder was made. It was decided to open and to drain the suppurating cavity by suprapubic incision but the child died before the operation could be performed.

Necropsy.—At the post-mortem examination the pelvic organs were removed *en masse*. The cyst was found to be a large diverticulum from the bladder with which it communicated by a smooth round orifice just external to the orifice of the right ureter, about five millimetres in diameter. The mucous membrane of the bladder was continued through the orifice which was surrounded by a well-marked ring of circular muscular fibres. The walls of the diverticulum were ragged and sloughing and it was filled with offensive ammoniacal pus. The bladder was small, of about one ounce capacity, and its walls were thickened. The diverticulum was about three times the size of the bladder.

Remarks by Mr. WILKINSON.—Inversion of the bladder is a rare condition and receives very scanty mention in the surgical text-books in general use. The best description of the condition which I have been able to find is in Gross's "Practical Treatise on Diseases of the Urinary Bladder" (third edition, 1878). It is mentioned also in Holmes's "System" and in Ashurst's "System" (vol. vi.). Inversion of the bladder occurs in two forms—incomplete and complete. In the former, which is much the commoner, there is prolapse of the mucous membrane alone. It usually occurs in female children, but Gross refers to a case, published by Bamberger, of prolapse of the mucous membrane of the bladder into the upper dilated urethra in a male. The complete variety (of which Case 1 is an instance) is much rarer. Gross says that only seven well-authenticated cases are on record and gives references. I have been unable to find records of any further cases reported since Gross's compilation. Five of these seven cases occurred in female children from 14 months to four years of age. Of the other two, the first was a fat female, aged 52 years, who was subject to chronic bronchitis, and the other was in a woman, aged 40 years, and appeared to be due to acute, subvening on chronic, cystitis with constant straining, set up by the presence of a patch of phosphatic deposit on the bladder wall. With regard to the etiology of the affection Gross says: "The probability is that a congenitally relaxed and weakened condition of the muscular fibres of the neck of the bladder and urethra is the essential cause of the trouble, and that inversion of the bladder takes place during fits of crying, coughing, sneezing, or straining. In all cases the urethra was greatly dilated. ..... It is of great moment that this variety of tumour should not be confounded with other affections, as vascular polypus or other growths occurring in this situation. ..... The most important signs are the presence of a pyriform, red, florid, vascular, soft, elastic, reducible tumour, about the size of a walnut, situated below the clitoris and between the labia, which may become injected and increase in size on crying or straining. There is usually more or less dysuria or incontinence both before and after its appearance. The orifice of the ureters may often be exposed or rendered visible by gentle traction on the protrusion." He insists specially on the danger of ligaturing and excising the protrusion but recommends that the prolapse should be reduced.

The case here reported presents several interesting features. In the first place, the protrusion sprang from the anterior wall of the bladder, not from the base in the neighbourhood of the orifices of the ureters, as in most of the cases hitherto recorded. Further, there appears to have been little, if any, abnormal relaxation of the sphincter of the bladder and urethra, as shown by the fact that the protrusion was so tightly grasped as to be strangulated and by the absence of incontinence after excision of the prolapse. No other case of gangrene of the inverted portion of bladder wall is recorded, so far as I know. The fact that the protrusion was sloughing would, of course, have precluded attempts at reduction even if the true nature of the case had been recognised before excision. In such a case, with a gangrenous prolapse and a very narrow pedicle springing from the anterior wall of the bladder, ligature and excision were probably the best treatment and were justified by the subsequent speedy recovery of the patient.

In Case 2 the diverticulum was evidently of congenital origin. There was no obstruction to the outflow of urine. The condition differs entirely from acquired diverticulum or sacculated bladder, such as is found in cases of stricture or prostatic enlargement. It differs also from cases of so-called "double bladder," in which the bladder is divided by incomplete septa into two (or more) compartments, into each of which a separate ureter opens. Several such cases are reported in Gross's work.

Tillmann[1] speaks of a "rare congenital diverticulum of the bladder behind the trigone." Gross refers to a case published by C. P. Johnson[2] of a male child, eight months old, who suffered for several weeks before death from violent paroxysms of pain in the abdomen. At the post-mortem examination an abnormal pouch was found arising by a narrow pedicle from the lower and back part of the bladder at a place naturally occupied by the right seminal vesicle, passing along the posterior wall of the bladder and rising two inches above its upper border. A somewhat similar case was reported by Beach[3] of a girl, aged five years, to whose bladder was attached a pouch opening into a third ureter. In THE LANCET of March 18th, 1899, p. 763, a case is reported by Coates and Wright (Manchester) of a man, aged 38 years, who died from cystitis and urinary fever. Post mortem he was found to have a diverticulum from the bladder, opening by a small orifice near the mouth of the right ureter. The cyst was three times the size of the bladder. There was no obstruction in the urethra or prostatic enlargement.

It would seem to be rather difficult to account for the occurrence of such a diverticulum developmentally. A fistulous communication between the bladder and rectum sometimes exists congenitally, either with or without imperforate anus. The fistulæ are probably the result of imperfect division of the fœtal cloaca into urethra, vagina, and rectum. Though the fistula most commonly opens into the prostatic urethra in the male it occasionally communicates with the base of the bladder. (There is a specimen showing this latter condition in the museum of the Sheffield Medical School.) One may speculate that such a fistula would be converted into a diverticulum of the base of the bladder if the rectal end closed whilst the vesical end remained patent.

ROYAL INFIRMARY, NEWCASTLE-ON-TYNE.

TWO CASES OF PREGNANCY COMPLICATED BY CANCER OF THE CERVIX; WITH A RECORD OF THEIR PROGRESS AFTER OPERATION.

(Under the care of Dr. THOMAS OLIVER and Mr. J. RUTHERFORD MORISON.)

FOR the notes of the cases we are indebted to Mr. G. Grey Turner, surgical registrar.

CASE 1. *Pregnancy; irremoveable cancer of the cervix; Cæsarean-Porro operation.*—On May 24th, 1900, a woman, aged 31 years, was admitted to the Royal Infirmary, Newcastle-on-Tyne, under the care of Dr. Oliver, complaining of a pelvic tumour. Her family consisted of six children, the youngest being two years and three months old. About Christmas, when the patient was two and a half months

[1] Text-book of Surgery.
[2] Medical Examiner and Record, 1850, p. 301.
[3] Transactions of the Pathological Society, vol. xxv., p. 185.

pregnant, she had profuse hæmorrhage from the vagina, succeeded by an offensive discharge. Two months before admission she began to have pain on micturition and on May 19th she had a severe hæmorrhage from the vagina. On admission she was found to be a pale, thin, anxious woman, exhausted by pain and hæmorrhage. Pregnancy was advanced to the middle of the eighth month and the whole pelvis was blocked by a mass of cancer originating from the cervix and involving the vaginal wall almost to the vulva. As any attempt at removal of the growth was out of the question it was decided to wait the onset of labour as the child was alive. On the morning of the 28th labour came on; the pains were very vigorous but there were no signs of the parts dilating. Mr. Morison performed the operation, having previously decided to remove the uterus. When the abdomen was opened the uterus was turned out, an elastic cord being loosely wound round its neck and this was tightened the moment the child had been safely cut out of the womb; the stump was fixed in the lower end of the incision, the upper part of which was closed. The child was delivered alive but death took place in three days. The operation was very well borne by the mother but for several days it looked as though she would succumb to incessant vomiting; this, however, ceased and she began to pick up a little. On the fifteenth day the stump separated and the patient left the hospital. Death took place from uræmia three days afterwards.

CASE 2.—*Pregnancy; cancer of cervix; Cæsarean section and immediate total hysterectomy.*—In THE LANCET of June 1st, 1901, p. 1536, Dr. Oliver and Mr. Morison reported a case of Cæsarean section and complete removal of the uterus in the eighth month of pregnancy for cancer of the cervix. This patient died from recurrence just three years after the operation and it is proposed to give a very brief *résumé* of the case with some details of the after-progress. The patient was a woman, aged 39 years, the mother of nine children, the youngest of whom was two years and nine months old. She looked healthy but was anæmic from severe hæmorrhage. For 18 months she had suffered from occasional slight uterine hæmorrhage, which had been very severe five months before consulting Dr. Oliver and again three days before. There was a large cauliflower growth limited to the cervix and the uterus was tenanted by a living fœtus advanced to the eighth month of gestation. Dr. Oliver advised operation and sent the patient into the infirmary under the care of Mr. Morison. On Jan. 31st, 1901, Cæsarean section was performed, followed immediately by removal of the whole uterus and appendages by the abdominal route (total hysterectomy). The disease appeared to be eradicated completely, for there was no evidence of its extension to the tissues around the cervix or to the glands. During convalescence a loop of intestine prolapsed through the abdominal wound and a small vesico-vaginal fistula formed but at the end of six weeks she was well enough to leave hospital. The growth was a squamous-celled epithelioma. The child throve well and continues healthy. By May 6th the patient was perfectly well and was gaining flesh and strength. In December of the same year the patient was in excellent health and without any suspicion of recurrence. In June, 1902, she came to the hospital complaining of some slight hæmorrhage from the vagina. Such an ominous symptom called for very careful examination but no growth was detected. The general health of the patient was excellent but unfortunately a ventral hernia was developing. On Feb. 18th, 1903, she again presented herself, looking in perfect health. She had no pain but complained of incontinence of urine. There was a fœtid discharge but no hæmorrhage. On the anterior vaginal wall there was a mass of growth with a hole into the bladder large enough to admit a forefinger. After mature consideration Mr. Morison proposed to excise the growth, a proceeding which would involve transplanting the ureters. The patient would not at that time consent to any further operation. Within a month the disease had made such an onslaught on the surrounding parts that the performance of any useful operation was out of the question, though the woman was now anxious to accept any risk in the hope of relief from her misery. She still looked in fairly good health but the growth was larger and two fingers could easily be thrust into the bladder. A little time after this it was possible to explore the whole pelvis by invaginating the ventral hernia. The margins of the growth could be felt fixed to the pelvic wall on the right side and an enlarged gland could be felt lying on the brim, while the remains of both utero-sacral ligaments were infiltrated. In October her condition was very much worse, for constant vomiting had been added to her other troubles. Death took place in January, 1904, just three years after operation. There was no necropsy but Mr. H. B. Ord of South Shields, who attended the case from the first, was sure that she had a secondary mass of cancer in the stomach.

Remarks by Mr. GREY TURNER.—I have reported these cases because in both I am able to give the after-history, for I think it is important that those who have the opportunity should record the ultimate results of operations and I hope on this account that these records may be of some use to those particularly interested in this branch of surgery.

In Case 1 Mr. Morison elected to remove the uterus rather than to perform conservative Cæsarean section because of the danger of sepsis spreading from the growth to the uterine wound and so to the peritoneum. Quite recently a specimen has been sent to the museum of the Durham University College of Medicine in which this untoward event occurred and it is easy to trace the path of infection even in the preserved specimen.

I am indebted to Dr. Oliver and Mr. Morison for permission to publish these cases.

Reviews and Notices of Books.

The Accessory Sinuses of the Nose and their Relations to Neighbouring Parts. By Dr. GUSTAV KILLIAN, Professor of Laryngology and Rhinology in the University of Freiburg, I.B. Translated by D. R. PATERSON, M.D. Edin., M.R.C.P. Lond., Assistant Physician in charge of the Throat Department, Cardiff Infirmary. Illustrated with 15 coloured plates and 18 photographs. Jena: Gustav Fischer. 1904. Price 25*s.*

Dr. Paterson informs us that he has experienced considerable difficulty owing to the want of literal translations for some of the German anatomical terms: for instance, "meatus supremus" is translated "highest meatus," in order to distinguish it from the superior meatus, with which it might be confused. The plates, which form so important a feature of this beautiful atlas, owe their inception to Professor Killian's discovering, in the course of his dissections, that in preparations preserved in 10 per cent. formalin it was possible to remove the bony wall of a sinus, leaving the mucosa intact within. The general scheme is that of a series of plates showing the relations of the accessory sinuses of the nose and the surrounding parts. Professor Killian finds that three frontal turbinates were originally present in man and three accessory turbinates in the infundibular part of the middle meatus. Two of the latter coalesce, forming the bulla ethmoidalis. The description of each plate or figure is complete in itself and the parts are described as seen in that particular specimen. A sheet of transparent paper is superimposed on the plate itself and a careful tracing of the figure is made on this sheet. The names of the parts are printed so that no lines interfere with the contour of the parts.

The following is a description of some of the figures in the order in which they occur in the book:—The accessory sinuses of the nose in their relation to the face, viewed from the front; amongst other important points may be mentioned the admirable way in which the relationship of the nasal duct to the maxillary sinus is brought out. The same viewed from in front in their relation to the nose; the entrance to the nasal cavity has been freely cut away and the frontal cells, as well as the frontal sinus, are very clearly and skilfully depicted. The accessory sinuses in relation to the face, viewed from the side, are given in the next plate, the facial bones being fenestrated in order to expose the accessory sinuses satisfactorily.

The accessory sinuses in their relation to the nasal fossæ are then illustrated and the next figure deals with all the accessory sinuses in their relation to the nose but they are opened up on their median aspect, so that the observer sees into the cavities instead of viewing the intact mucosa. Structures bounding the external walls of these various cavities are depicted in the following plate, the dissections being made from within. The importance of a clear knowledge of the structures immediately outside such thin-walled cavities as the ethmoidal cells is much more easily realised by looking at such plates as those under consideration than by merely enumerating them. In the description of Fig. 9 Professor Killian suggests that the thin plate of bone which separates the sphenoidal sinus from the cranial vault, bounded by the chiasma of the two optic nerves, which is thus triangular in form, should be called the optic trigone. Fig. 12 is extremely interesting and instructive, showing the relation of the frontal sinuses to the frontal lobes of the brain. The next figure deals with a most unusual dissection, in which the base of the brain is depicted in its relationship to the accessory sinuses, viewed from within. Fig. 14 is another plate of the same character, in which the osseous base of the skull has been completely removed, while excision of the dura mater shows the region of the frontal and ethmoidal cells and sphenoidal sinuses. The base of the brain in its relationship to the accessory sinuses (Fig. 15) is another dissection of startling originality. The relation of the internal parts of the brain to the accessory cavities is shown in Figs. 16, 17, and 18.

As an atlas this book stands alone by reason of the clearness of the letterpress, the beauty of its plates, and the skill and originality shown in the dissections. It must be obvious to anyone looking through this work, even superficially, that it has been a labour of love on the part of its projector. At the same time it must be equally evident that no one less thoroughly versed in the difficulties and dangers attendant on sinus operations—at any rate the more radical methods—could have made such dissections, for these are not chance dissections but have been carefully thought out and are of extraordinary beauty, each bringing into prominence the point or points which it was designed to show. Professor Killian is known widely for his scientific attainments and those who are earnest searchers after truth, those who instruct, and those who operate will all alike appreciate the immense service which he has rendered to rhinology, though perhaps it is as a means of instruction that these plates are pre-eminently fitted. We have derived pleasure and instruction from the perusal of this atlas and we cordially recommend it to our readers. Dr. Paterson has succeeded admirably in his task, for translations from the German are usually hard to render into clear and lucid English.

Text-book of Physiological Chemistry for Students of Medicine. By JOHN H. LONG, M.S., D.Sc., Professor of Chemistry in Northwestern University Medical School, Chicago. Illustrated. Philadelphia: P. Blakiston's Son and Co. 1905. Pp. 424.

THIS is really an elementary work on physiological chemistry and on the whole does not contain much more information on the subject with which it deals than is to be found in some text-books of physiology which include physiological chemistry as part of physiology. In small type a considerable number of experiments are given, these being much the same tests as are included in the smaller manuals of practical physiology. The scope of the work is covered under the following heads: Nutritives, Ferments and Digestive Processes, Blood, Tissues and Secretions, End Products of Metabolism, Excretions, and Energy Balance. In the preparation of glycogen (p. 46) nothing is said about the importance of feeding the animal before preparing the liver to extract this substance. To us, perhaps, the expression "common beef liver" sounds strange (p. 47). The composition of pancreatic juice is given as containing 9 parts of organic matter and 1 part of inorganic. Nothing is said of "secretin" and the above composition is given as that of normal pancreatic juice. The importance of the interaction of bile and pancreatic juice is not fully explained and only a brief paragraph is given to enterokinase and a still shorter one to erepsin. The "hæmoglobinometer" of Gowers is described but the recent modification of Haldane finds no place. A chapter is given to osmotic pressure, freezing point, and electrical conductivity in connexion with the blood. This might well be expected in a work emanating from a university which had on its staff Professor G. N. Stewart. Immunity and allied subjects are also dealt with in a general way, much as they are treated in text-books on pathology. The work is admittedly largely a compilation and as it is intended for beginners there is no special quotation of references to the literature. It is a work that may be found useful by the student but not one that is likely to engage the attention of the practitioner.

Addresses and other Papers. By WILLIAM WILLIAMS KEEN, M.D., LL.D., F.R.C.S. Eng. (Hon.), Professor of Surgery, Jefferson Medical College, Philadelphia, &c. Illustrated. London, Philadelphia, and New York: W. B. Saunders and Co. 1905. Pp. 441. Price 17*s.* 6*d.* net.

IT is not long since we welcomed a collection of addresses by Professor Osler and the present volume is to some extent complementary to that, dealing as it does with current topics from the point of view of the surgeon instead of that of the physician. We find here an interesting account of the gradual development of the study of anatomy in which is emphasised the comparatively recent growth of actual human dissection in the course of which the author gives some anecdotes of the doings of the "resurrectionists" who at first supplied the needs of our schools. An address dealing with the public debt to the results of experimental medicine should be read by all who are in doubt as to the morality of this method of investigation—at least by all who are capable of thinking over the question rationally and impartially. When we consider that much of our knowledge of intestinal surgery, of anæsthetics, of renal operations, and of cerebral localisation, as well as practically all our knowledge of serum treatment and of prophylactic inoculation are due to experimental investigation and when we recall what antiseptic surgery owes to work on the same lines, we can only wonder at the clamour raised by many well-meaning persons as well as by those whom it is difficult to acquit of wilful exaggeration and even intentional mis-statement. In a separate address the advances in cerebral surgery rendered possible by animal experimentation are pointed out at greater length.

The subject of medical education attracts apparently as much attention in America as in this country, and it is refreshing to find so great an exponent of modern science as Professor Keen advocating a knowledge of the classical languages, as well as of modern tongues, for students of medicine. Like Professor Osler, he emphasises the value to medical writers of cultivating a clear style for the exposition of their discoveries—an apparently small point, but yet a factor of some importance in the conveyance of knowledge to others. Finally, Professor Keen says words of weight upon the debt owed by the public to the medical profession, upon the need for adequate endowment of medical studies, and upon the duty imposed upon hospital trustees of supporting schools of medicine attached to their hospitals—words which may well be pondered by our own boards of

management and central authorities. We hope that Professor Keen's addresses will be read by many on this side of the water as well as in his own country. They are pleasantly written, often rising to real though unpretentious eloquence, and they set forth the ripe experience of one who not only is a master of his own branch of the medical art but has thought carefully over most of the problems facing the profession at the present time.

The English Lakes. Painted by A. HEATON COOPER; described by WILLIAM PALMER. Containing 75 full-page illustrations in colour facsimile. London: Adam and Charles Black. 1905. Pp. 230. Price 20*s.* net. Edition de Luxe, price 42*s.* net.

THERE is nothing especially medical about this handsome book but we suppose that the publishers have submitted it to us upon the general grounds that a good book, like everything which makes us happier, must have its therapeutic uses. The Lake District is famous throughout the world for its scenery. The combination of beauty and sublimity in the landscape of this favoured area has been the subject of painters and poets over and over again, and it may seem that Mr. Cooper and Mr. Palmer have chosen a trite theme on which to display their joint skill. But colour printing and the various processes for the multiple reproduction of paintings in volumes and in magazines have developed recently until results are achieved that would have seemed magical 20 years ago; and to the best of our knowledge there is no other book dealing with the English lakes which gives the reader such profuse and faithful illustrations. Mr. Cooper is a Coniston man, whose work in water-colour has been exhibited in the Royal Academy, and he paints with genuine appreciation the scenes, sometimes lovely and sometimes magnificent, with which his eye is familiar. He has been happy in his collaborator, for Mr. Palmer, who has previously written on the subject, contributes some thoroughly interesting letter-press. Like Mr. Cooper, he evidently knows the Lake District up and down and through and through, with the result that in every chapter he has something interesting to say over and above mere descriptions—something of the old life of the dales, when there were wandering minstrels, poachers who used "the lath," and schoolmasters who went "whittle-gate" to the homes of their pupils. Long may the environments of our English lakes escape the clutches of the builder is the inevitable feeling on putting down this happily written and beautifully illustrated record of the district.

LIBRARY TABLE.

The Prevention of Cholera and its Treatment. By Lieutenant-Colonel J. DUKE, I.M.S. (retired). Third edition, enlarged. Calcutta: Thacker, Spink, and Co. 1905. Pp. 28. Price 8 annas.—The code of rules drawn up by Lieutenant-Colonel Duke in 1900 are in the present edition of his pamphlet re-edited and amplified. The chief purpose of the pamphlet is prophylactic and, as the author states in the addenda concerning the treatment of a case of cholera, "Prevention is the only antidote." That cholera is spread by the imbibition of water contaminated with cholera microbes is the keynote of prophylaxis. The microbe is readily killed by boiling the water in which it is present, by drying, and by acids. The method of disinfecting wells by means of permanganate of potassium is minutely explained by Lieutenant-Colonel Duke; how to disinfect houses having mud or cowdung floors, latrines, and the dejecta of cholera patients is clearly and forcibly stated; nor are the mess and cook houses forgotten. The successful treatment of cholera Lieutenant-Colonel Duke considers well-nigh hopeless in many instances but he attaches to calomel and red iodide of mercury combined with Indian hemp high curative powers in all but the most virulent forms of the disease. The pamphlet as a whole affords an excellent guide to the treatment of cholera, whether by prophylaxis or by therapeutic remedies.

Grundriss der Semiotik des Harns. (Elements of the Symptomatology of the Urine.) By Dr. ST. SERKOWSKI of Lodz. With six illustrations. Berlin: S. Karger. 1905. Pp. 80. Price 1*s.* 6*d.*—We are more inclined to think of Lodz as a centre of textile industry and at present a focus of disturbance and the seat of recent massacres rather than as a centre of literary activity. The author is the director of the municipal chemico-bacteriological laboratory. The brochure is divided into 41 paragraphs, each one dealing with some substance, normal or abnormal, present in the urine and with the causes which determine the presence of these abnormal substances, together with the methods of detecting them and of estimating their amount and also their diagnostic importance. It is a good general concise *résumé* of the subject with which it deals. It is much like similar works on this subject, with this difference, that the references in the text to authors' names are nearly all to those of continental nations. Like many other books printed in Germany it is without an index.

Atlas der Menschlichen Blutzellen. By Dr. ARTUR PAPPENHEIM. Part I. Plates I.—XII. Jena: Gustav Fischer. Pp. 83. Price 16*s.*—Readers of Virchow's *Archiv* will be familiar with the excellent work of Dr. Pappenheim of Hamburg on the blood corpuscles. This elaborate atlas deals, however, only with the leucocytes. There is considerable confusion in the nomenclature of these corpuscles as used by different investigators. The author therefore believes that the study of really good pictures of these leucocytes prepared by a trustworthy method is of far more use to the pathologist and the physician than any long-drawn-out description of the various forms of these cells and their modifications in disease. The work treats chiefly of the histological characters of these corpuscles; the first part, which is now before us, deals with them as they appear when stained with the hæmatoxylin process and its modifications, and also by means of different aniline dyes. The third part will deal with the leucocytes and their cytogenic connexions and with the red corpuscles. It is contemplated to issue 24 plates in all and of these this first "Lieferung" contains 12. The text extends to 83 pages but it is so put together as to make it difficult to give a general review of a subject dealing with such intricate histological details and with so many varieties of the same kind of corpuscle in health and disease. We can strongly recommend for reference the excellent plates which have been prepared with great care; indeed the lithographic work in detail in the numerous drawings of the corpuscles is so fine that it will bear investigation with a lens. The second part is in preparation.

Colour-Vision and Colour-Blindness: a Practical Manual for Railroad Surgeons. By J. ELLIS JENNINGS, M.D. Univ. Penna. Second edition, with illustrations. Philadelphia: F. A. Davis Company. 1905. Pp. 132. Price $1 net.—This work is essentially what it purports to be, one for railroad surgeons, and differs chiefly from the first edition in the addition of a chapter on the methods of testing form and light sense, some rules adopted by the American Medical Association, and new descriptions of lanterns, chart, and tests. The work is best on its practical side. The chapters on physiological anatomy, the physics of light, and theories on colour sensation hardly reach the standard of similar *résumés* in ordinary text-books of physiology. The neuron doctrine does not seem to find a place. This, however, is a matter of no great importance in a work which deals with the practical examination of, and the detection of defective form and colour sense in, railway employés.

JOURNALS AND MAGAZINES.

The Ophthalmoscope. Vol. III. No. 9. September, 1905. Edited by SYDNEY STEPHENSON and CHARLES A. OLIVER. Sub-editor: C. DEVEREUX MARSHALL. London: George Pulman and Sons. Annual subscription 10*s.* 6*d.*—This number of the *Ophthalmoscope* contains three original communications—viz.: 1. The Significance of the Eye Symptoms in Disseminated Sclerosis of the Brain and Spinal Cord, by Professor W. Uhthoff. 2. The Early Symptoms of Insular Sclerosis, by Edmund Hobhouse, M.D. Oxon. 3. A Case of Infantile Cerebral Diplegia, by O. J. Kauffmann, M.D. Lond. In addition there are excerpts from current literature and several reviews. Professor Uhthoff states that in his experience in disseminated sclerosis of the brain and cord the optic disc is more or less pallid and atrophic. Other symptoms are central scotomata or occasionally a ring scotoma, contraction of the field of vision, and more rarely a disposition to hemianopia. In about half of the cases the visual disturbance sets in suddenly and may be either on one or both sides. Permanent bilateral complete blindness is rare. The impairment of colour vision is slight. Paralysis of the ocular muscles occurs in about one-fifth of all the cases. Nystagmus-like twitchings are frequent but by no means constant, occurring in nearly half the cases, and nystagmus in about 12 per cent. The behaviour of the pupils is not characteristic. Dr. Hobhouse considers that hysterical symptoms are the first noticeable indications of insular sclerosis, or if these symptoms are not hysterical they are associated with the commencing degeneration of the nervous system. Such symptoms are temporary loss of vision, numbness and tingling, and slight loss of motor power; but if well-marked nystagmus, scanning speech, intention tremor, pallor of the discs, incontinence of urine, or the extensor reflex on plantar stimulation are present we may be certain that the case is one of insular sclerosis. Dr. Kauffmann's case is an interesting one of chronic progressive cerebral degeneration characterised by dementia, intense spastic paralysis of the lower limbs, and atrophic eye changes.

The Scottish Medical and Surgical Journal. — The September number of this magazine contains some articles of more than average interest. Mr. F. M. Caird writes on the Urine Separator of Luys and speaks highly of the value of the instrument. By means of an injection of indigo-carmine the secretory powers of the two kidneys may be estimated and the author gives illustrations of the colour of the urine resulting from this treatment in healthy and diseased kidneys. Dr. John Marnoch writes a practical article on Tuberculous Cervical Glands and Dr. Ashley W. Mackintosh gives a valuable summary of recent work on Some Aspects of Cerebral Localisation, emphasising the importance of investigating the stereognostic sense in all nervous lesions. Dr. A. Dingwall Fordyce discusses the Relation of the Suprarenal Glands to General Morbid Processes and Dr. R. Cranston Low, who has investigated the lesions caused by the administration of tuberculin, shows that the eruption closely resembles lichen scrofulosorum, definite cellular infiltration occurring round the blood-vessels.

The Edinburgh Medical Journal (September).—A contribution to our rapidly increasing knowledge of trypanosomiasis is here made by Dr. Andrew Balfour who has found a trypanosome in cattle in the Soudan, which has been named trypanosoma nanum by Laveran. Mr. Thomas D. Luke discusses Post-anæsthetic Sickness and notes that that following chloroform may come on much later than that due to ether, appearing some hours after the patient has regained consciousness. Dr. R. F. C. Leith gives a summary of recent work on the subject of cancer with a view to show that the parasitic hypothesis is not now upheld by many authorities and that little progress has so far been made in elucidating the real nature of the disease. Professor K. G. Lennander's paper on the Treatment of Acute Peritonitis is concluded in this number.

The Medical Chronicle (September).—Dr. A. Knyvett Gordon's paper which appears in this number is designed to fill up some of the gaps left by the ordinary medical text-books upon the subject of otitis media. The author lays stress upon the early involvement of the bone in the form of this trouble occurring after measles and scarlet fever, considering that the disease is rather an osteitis than a catarrhal affection. He also advises a radical operation in obstinate cases without the performance of a preliminary antrectomy. Dr. C. Paget Lapage's paper on Feeble-minded Children is continued and various forms of speech defect are considered.

New Inventions.

NASAL DILATOR FOR CONTINUOUS DILATATION OF THE ANTERIOR NARES IN CASES OF NASAL OBSTRUCTION.

I AM anxious to submit to notice this small instrument for the relief of nasal obstruction when due to swelling of the mucous membrane covering the nasal bones. The benefits I have found to result from the use of it by those who complain of stuffiness in the nose are as follows. 1. It allows the nose to be thoroughly cleared from discharge by sniffing air backwards. Usually this means of clearing the nose is rendered useless in cases of nasal obstruction by the indrawing of the alæ nasi which occurs at each sniff. The dilator, by keeping the nostrils wide, allows a powerful current of air to be drawn in carrying with it the discharge, the removal of which is of as much value in an inflamed nose as in an inflamed joint. 2. It allows nasal respiration to be comfortably carried on while it is in place.

Nine out of ten of the patients who come complaining of stuffiness in the nose can breathe more freely than usual during examination of the anterior nares and I believe that the temporary relief thus obtained, as long as the dilator is in place, is of permanent value in two ways: (1) the inspired air, by removing moisture from the mucous membrane as it passes, tends to diminish swelling of that tissue; and (2) there seems to be a vicious cycle between swelling and the state of obstruction or stuffiness. By relieving the stuffiness the dilator breaks this cycle. The more swollen the mucous membrane covering the nasal bone is the greater is the resulting obstruction and I believe that the greater the state of obstruction the more tendency there is to swell, for the greater the stuffiness the harder one has to inspire to get enough air through the nose, and this increased suction can sometimes actually be seen to suck out the membrane over the turbinals towards the lumen at each inspiration. The dilator removes the state of stuffiness and consequently the extra suction, and the now unsupported swelling recedes, leaving the nose permanently freer after the removal of the dilator. I suggest the use of the dilator during the night and for a few minutes during the day when required and when convenient. Dilation for even a few minutes allows the nose to be properly cleared and relieves the obstruction due to congestion after holding the head down over work or to simple rhinitis.

The instrument is neatly and carefully made by Messrs. Arnold and Sons of West Smithfield, E.C. It is inexpensive, comfortable, easily adjusted to the required size, and is very effective. It is more firmly retained than other dilators and I should be much pleased if others would give it a trial.

THOMAS W. LUMSDEN, M.D. Aberd.,
Registrar, Central London Throat, Nose, and Ear Hospital.

THE LANCET.

LONDON: SATURDAY, OCTOBER 7, 1905.

Medicine and Pharmacy in the Orange River Colony.

WE have received from the Registrar of the Medical and Pharmacy Council of the Orange River Colony a copy of the Medical and Pharmacy Ordinance of 1904, together with the Government Gazette of August 5th in the present year, which contains the regulations framed under the Ordinance by the Medical and Pharmacy Council, confirmed by His Excellency the Lieutenant-Governor in Council, and published for the general information. It appears from these documents that the medical profession in the colony has succeeded in obtaining a great deal for which we in this country are still striving in vain, and we can only hope that the enlightenment which has manifestly guided colonial counsels in relation to medicine and medical practitioners may extend itself before long to the Imperial government and the Imperial Parliament. For the purposes of legislative control and for the protection of the public in the colony medicine, dentistry, pharmacy, and nursing are placed under the jurisdiction of a common council, analogous to the General Medical Council of the United Kingdom, and composed of eleven persons, viz., seven medical practitioners, one dentist, and three chemists and druggists. Three of the medical practitioners, the dentist, and two chemists and druggists are nominated by the Lieutenant-Governor, and four medical practitioners and one chemist and druggist are elected by the medical practitioners and by the chemists and druggists of the colony respectively, much in the same way that the "Direct Representatives" are elected at home. The dentist and the chemists and druggists are entitled to be present at all meetings of the Council but not to take part in the discussion of, or to vote upon, any question or matter brought before the Council unless by resolution of the majority it be determined to be a question or matter affecting their respective interests. They are, however, permitted to propose, to discuss, and to vote upon any motion to the effect that any question or matter brought before the Council does so affect them. It is obvious that in order to carry such a motion the dentist and the chemists and druggists would require to be supported by at least two of the medical members of the Council, and the power of the medical element is further enhanced by the provision that at least four of the medical members must be present in order to constitute an effective meeting. The Council is empowered to regulate the times and places of its meetings and the conduct of its business, to define what diplomas or certificates will be accepted as entitling those possessed of them to be registered as medical practitioners, dentists, chemists and [druggists,] trained nurses, certificated midwives, or nurses for the insane, and what fees shall be paid for registration; to prescribe the course of study, professional practice, conditions of service and training and examination of persons desirous of being registered as chemists and druggists, trained nurses, certificated midwives, or nurses for the insane, and the fee to be paid in respect of such examination and registration; to regulate the registration of women already in practice as midwives; to regulate, to supervise, and to restrict within due limits the practice of nursing, midwifery, and nursing or attendance upon the insane; to regulate the keeping, dispensing, and sale of poisons; and generally to carry into effect the objects of the Ordinance. In other words, the Council possesses powers which in this country (if they were conferred at all) would be divided among the General Medical Council, the council of the Pharmaceutical Society, the Midwives Board, and any nursing authority which may hereafter be created. It is still more to the purpose that it possesses them in an effective manner, so that they are capable of being promptly applied for the attainment of the objects which they are intended to secure.

There being at present no medical licensing authority in the colony the medical practitioners contemplated by the Ordinance appear to be the holders of British qualifications, and the Council is prohibited from admitting the holder of any colonial qualification to register unless satisfied that the curriculum and examination upon which it has been granted are not lower than those required by the General Medical Council of the United Kingdom. Foreign qualifications may be registered if valid in the country where they are given and if in that country British subjects legally qualified to practise as physicians and surgeons or dentists in Great Britain and Ireland are afforded privileges equivalent to those granted in the colony by registration under the Ordinance. The fraudulent procuring of registration by false certificates or pretences is punishable by imprisonment with or without hard labour for a period not exceeding 12 months, and the use by an unregistered person of any title implying registration or the practice of any unregistered person in any medical capacity is punishable by a fine not exceeding £100 for each offence, or by imprisonment with or without hard labour for a time not exceeding six months in default of payment. In this respect the words of the Ordinance leave no possible loophole for the ingenuity of quacks, the penalty being made to apply to any unregistered person "who shall practise or in any manner or by any means whatsoever profess to practise as a medical practitioner or dentist for gain, hire, or hope of reward, or shall advertise in any manner or by any means whatsoever to give advice in medicine, surgery, or midwifery, or dentistry, or dental surgery." The same restrictions apply to any "company, association, or other plurality of persons" practising dentistry or dental surgery, unless such company consists wholly of dentists registered under the Ordinance, and similar restrictions with smaller penalties apply to chemists and druggists, nurses, midwives, and attendants upon the insane.

The provisions for removal from the Register are different from those which obtain in the United Kingdom and might possibly become sources of difficulty. In the first place

the registrar shall by direction of the Council erase the name "of any person who may have been declared disqualified for practice by, or whose name may have been struck off the roll, register, or record of the hospital, university, college, or other body from which such person received any diploma, degree, certificate, or other instrument upon the faith of which such person was registered in the colony." It seems to be uncertain what would happen if a person possessing two or more qualifications, and registered as possessing them, were deprived of one or more of them by the body which conferred them, but still retained something by which registration would be justified. The Royal College of Surgeons of England, for example, can deprive any Member of the College of his Membership but the Society of Apothecaries of London has no similar power to deprive a Licentiate of his Licence. If a person possessing these two qualifications and registered in the colony were deprived of his Membership by the College it does not seem that his right to remain on the colonial register would be interfered with. In any case of alleged improper or unprofessional conduct it is provided that the Council shall institute an inquiry, under which the President may administer an oath to a witness and at which the accused person shall have an opportunity of being heard in person or by counsel. If he be adjudged guilty, the Council may reprimand or caution him in writing under the hand of the President. If the conduct so condemned be continued, or if, in the judgment of the Council, it amounted in the first instance to "infamous or *disgraceful* conduct in any professional *or other* respect," the case is transferred to the jurisdiction of the Lieutenant-Governor who may then direct the name of the offender to be erased from the Register. The Lieutenant-Governor is not directed to hold any further inquiry for his own satisfaction but it may be presumed that he would be entitled to do so and that in any case he would be bound to satisfy himself with regard to the character and the gravity of the charge. There is no mention of any appeal from his decision or of any process by which restoration to the Register can be effected and persons whose names are erased are absolutely prohibited from practising, being placed under the same penalties as those who attempt to practise without having ever been registered at all. If charged with practising their continued possession of their original diplomas will not serve them as a defence. In the case of any nurse, midwife, or nurse of the insane, the Council itself is competent to erase from the Register "with the consent of the Lieutenant-Governor," and the consequences are of the same kind as in the case of a medical practitioner or dentist. A medical practitioner registered under the Ordinance is entitled to act as an accoucheur and to compound and to dispense medicines (by implication only to his own patients) but is not allowed to keep an open shop as a chemist and druggist unless he was doing so before the day on which the Ordinance came into operation. Every druggist's shop must be under the direct supervision and control of a registered chemist and druggist (with provision against this enactment being evaded in the case of a "company"), and medical practitioners and chemists and druggists are alike liable to fine, and to imprisonment in default, for selling or supplying "any medicines or drugs of bad quality." The sale of poisons is strictly regulated, with due regard to the needs of a scattered population and to such processes as sheep dipping; and chemists and druggists under the sections dealing with this subject are made responsible for the acts of their subordinates. The definition of poisons is made to include a considerable number of English and Dutch patent medicines which in this country can be sold without restriction, such, for example, as Powell's balsam of aniseed, Winslow's soothing syrup, all varieties of chlorodyne, and even Fellow's and Easton's syrups, while among the Dutch scheduled preparations we find "pijnstillende droppels" and "witte vomitief powder." On the whole, we cannot but regard the Ordinance as an eminently satisfactory one, likely to deal in a thoroughly efficient manner with the medical and pharmaceutical requirements of the colony and containing a great deal which might be copied with advantage in the mother country. We congratulate our professional brethren in the Orange Free State upon having obtained such complete control over the practice both of medicine and of pharmacy and shall watch with much interest the future working of the legislation by which this control is conferred.

Work and Play.

IT has frequently been sought to estimate the intellectual activity of a country from the amount and character of its literary productions, and though the method is one that readily lends itself to abuse and may often be made to yield whatever results will best suit the prejudices of the inquirer, it will at times, when used with an unbiased judgment, give some interesting information as to the prevailing tendencies in thought. The speculative observer who, in this spirit, glances down the lengthy lists of new British publications will find no feature of the book trade more striking than the curious prominence that is given to the literature of sport. As he peruses the classified index of some of our publishing houses he will often have occasion to remark, possibly with some little surprise, that treatises on sport of various kinds seem to be in more request than works on biology and that, despite our attitude of respectful vigilance towards our friends on the other side of the North Sea, we appear to give more attention to mastering the theory of golf or bridge than to acquainting ourselves with the history and institutions of Germany. This tendency, which seems to be essentially Britannic and is hardly to be traced in the contemporary literature of other countries, is, of course, but one expression of the devotion to sport which is characteristic of us as a race and which, according to the disposition of the individual critic, furnishes the text either for indiscriminate praise or for equally indiscriminate condemnation of our national temper. Into the discussion of that national trait, in so far as it bears on the proper place of sport in the education of youth, we have not to enter here; our concern for the moment is only with the attitude which the grown-up members of our cultured classes seem inclined to adopt towards certain forms of amusement which replace for their maturer years the vigorous games of adolescence.

Few who are familiar with the social life of the medical

profession will hesitate to admit that medical men as a class are at least as prone as their neighbours to the bridge mania and the obsession of golf. We may not often catch these complaints in their severest forms, yet some of us may have encountered professional brethren not far removed from the parlous state of the practitioner of whom it was credibly reported that his bridge consciousness had so far got the upper hand over his medical personality that he had come to think and to speak in the phraseology of his favourite game and would convey an unfavourable prognosis by murmuring the mystic word "chicane," or would laud the latest coal-tar product as a remedy with which he had made Grand Slam in a score of diseases. Even, however, when we do not run to these extremes it may still be questioned whether our cult of pastimes of this sort is kept always within the limits which a sane and level view of life would assign to them. Probably there are too many medical men in this country who allow sports to occupy a position of prominence which is detrimental to their proper intellectual interests and which spoils the sports as means of relaxation. We are not advocating a life of endless toil, with no change of interest and no relaxation, but are rather pointing out that when a sport or a game is too seriously pursued it ceases to be a relaxation. Theoretically what can be nicer for the hard-worked practitioner than to sit down to his well-earned rubber at the close of a hard day's work; but when it appears that the amusement that is to soothe his quivering nerves comes in the guise of an art that has to be taught in elaborate text-books, with a technical phraseology as rich as that of a youthful specialism on its promotion, then we may be allowed to entertain some little doubt as to the sedative value of the remedy.

We may perhaps venture to suggest that in this matter our professional brethren abroad set a somewhat better example, that they are less prone to confuse the spheres of work and pleasure, and that they are more ready than we are to give up their leisure to intellectual activities that broaden their outlook on life, and may help incidentally their professional efficiency. For modern medicine knows no bounds, and information picked up as pure entertainment, the acquisition of which has been most refreshing, may turn out of practical value at any moment. No one, for instance, who has had occasion to refer to the original literature of any medical, or, indeed, of any scientific subject, and who has turned for help to the continental bibliographer, can have failed to observe how considerable in amount and in quality have been the contributions to knowledge made in France, in Germany, and in Italy by men working in obscure towns or in country districts remote from the centres of intellectual movement. The meaning of this is not that the leisure of these observers has been spent in perpetual grinding at their subjects, but that they have taken their pleasure in the pursuit of intellectuality, and in so doing have not necessarily committed themselves to any harder mental task than the text-book of scientific bridge might demand of them. It is difficult to resist the impression that if we fail to give evidence of as high a general level of scientific culture as our continental colleagues, who have assuredly no advantage over us in natural talent or opportunity, the humiliating fact may be in part due to the tendency which we have ventured to deprecate, the tendency to dissipate our energies and to take our amusements, if not more seriously than our work, at all events more seriously than befits their place in any rational scheme of life.

The Underfeeding of School Children.

AT the present time, when public interest is so strongly focussed on the question of national physique, it is hardly surprising that the conditions under which school children are fed should engage the attention not only of the responsible educational authorities but also of independent and philanthropic inquirers. It has, however, been too readily assumed from somewhat superficial investigation that underfeeding in the case of the developing child is one of the most important contributory factors in the determination of physical deterioration; indeed, on this hypothesis enthusiastic reformers may possibly have allowed superficial impressions rather than matured consideration to direct their lines of action. It requires no more than a cursory examination of the children, who, in some rather sweeping form of classification, might come under the category of degenerates and who constitute an appreciable percentage of our urban elementary scholars, to convince the observers of the fact that they are one and all suffering from some degree of malnutrition. The conclusion that this malnutrition is the result of starvation seems but a natural inference. Malnutrition, however, of the kind found in many of them more often proceeds from a combination of hereditary disabilities and acquired constitutional dyscrasias than from the fault of actual lack of food. A very large number of children, who certainly give the impression of being starved, are suffering from a chronic form of intestinal catarrh which is often the result of faulty methods of feeding during infancy. These children are usually voraciously hungry but their complaint is of a nature that does not benefit by an increased dietary or a plethora of food. By others than medical men such cases would generally be ascribed to starvation. Although it is impossible to doubt that the majority of the children of the poor are most injudiciously fed, this is very different from the assertion that they are actually starved and it becomes a serious question how far the condition of affairs which often prevails can be improved by the indiscriminate institution of free meals.

Recognising, therefore, the great difficulty of discriminating between what is genuine and what is apparent starvation, we heartily welcome the painstaking efforts of Dr. ALFRED GREENWOOD, the medical officer of health of the county borough of Blackburn, to elucidate by systematic investigation the extent to which alleged starvation exists among the children attending at the elementary schools situated in the area under his medical supervision. The result of his inquiries has been embodied in a little brochure of some 76 pages, which we commend to the notice of all our readers, while some of his interesting figures will be found in our Manchester correspondent's letter this week. Although the field of Dr. GREENWOOD'S investigations has been confined to a narrow area, nevertheless,

in that his inquiries represent an answer to a finite question, they will probably carry greater weight in the solution of the social and educational problem presented by ill-nourished board-school children than many more demonstrative generalisations on the same subject. In his inquiry into the extent of underfeeding among school children in his district Dr. GREENWOOD has employed methods of investigation which were thorough and free from the sources of error which are very liable to creep into inquiries of this kind. All necessary precautions were taken to avoid deception and the range of the inquiry was sufficiently wide to arrive at a very fair estimate of the truth. The plan of the campaign included a house-to-house inspection of the homes of all the children who were suspected by their teachers to be suffering from the ill-effects of any form of underfeeding. Out of all the 22,952 children attending at the public elementary schools within his district the names and addresses of 540 children only were supplied to Dr. GREENWOOD as being desirable and suitable cases for inquiry. An analysis of the results obtained enabled him to come to the definite conclusion that underfeeding does not occur from various reasons, such as poverty, illness, and neglect, in more than 313 children within his district and that these children are included in 95 independent families. Based, therefore, on the somewhat rigorous standard adopted by Dr. GREENWOOD it is improbable that more than 1·3 per cent. of the Blackburn school children are genuinely underfed. These conclusions, though strictly applicable only to a limited group of school children, justify the inference that more or less similar conditions would be found to obtain among other groups of children situated in comparable circumstances. At any rate, they bear out what has been repeatedly stated in the columns of THE LANCET—namely, that malnutrition, which is so frequently ascribed to starvation, is more often than not due to causes which are the relics of injudicious feeding during the period of infancy or which are the outcome of ignorance and neglect on the part of the parents.

While admitting that a certain proportion of children in Blackburn would benefit by increased quantities of more nutritive varieties of food, Dr. GREENWOOD is of the opinion that "the question of underfed children in Blackburn at present is not so acute as to demand direct municipal assistance." His inquiries further lead him to two interesting conclusions. The first is distinctly foregone, it is that considerable waste occurs in many households from a want of knowledge of the nutritive value of the food employed. The second is interesting because it shews that the measures which we are all prone to consider as proving the thrift of those who employ them may be regarded in some cases as sad examples of waste. Pennies are saved but health is spent. Dr. GREENWOOD considers that a serious tax is frequently incurred by weekly payments to burial and other clubs, payments which are often quite out of proportion to the wages earned and to the benefits secured. The chief preventable causes of such cases of underfeeding as do occur are ascribed by Dr. GREENWOOD to alcoholism, laziness, indifference, and bad management on the part of the parents. So-called physical deterioration in school children, as in other living organisms, represents a more or less responsive adaptation to the circumstances of the environment, but the more closely these circumstances are investigated the less do they appear to depend on the starvation factor. The best results in physical and mental development can clearly only be obtained under the best conditions of feeding, hygiene, and education; but if starvation plays so unimportant a part as this investigation of Dr. GREENWOOD would lead us to suppose, it is merely playing with a vital problem to imagine that the question of physical deterioration as it exists among school children can be dealt with by the provision of free meals.

Annotations.

"Ne quid nimis."

THE ROYAL COMMISSION ON MOTOR TRAFFIC.

IN the House of Commons on June 1st last Mr. Balfour said that the existing Motor Act would be reintroduced next session in an amended form, and on August 7th the appointment of a Royal Commission was announced to inquire and report as to (1) the working of the Motor Car Acts, 1896 and 1903, and of the regulations under them; (2) the law and practice in relation to motor-cars in the principal foreign countries; (3) what amendments, if any, should be made in the Motor Car Acts and the regulations under them; (4) the injury to the roads alleged to be caused by motor-cars; and (5) whether any, and if so what, additional charges should be imposed in respect of motor-cars and how any money thus received should be applied. The terms of reference appear to be fairly comprehensive. On the one hand, they recognise that the whole question of motor traffic is yet in its infancy and cannot be put on a cut-and-cried basis at once. On the other hand, they will allow discussion of the circumstance that not a few motorists have outrageously overstepped the bounds of decency and have shown an utter disregard of the rights of other users of the road. Great efforts are being made by persons interested in the motor industry to prepare the facts of the situation for presentation to the Commission in the most favourable form, and it is therefore in accordance with the fitness of things that the medical profession, to whom the whole question of motor propulsion is of great importance, should have been called upon to give information upon certain points in a statistical form issued to them by the Joint Committee of the Automobile Club and the Motor Union. While the individual returns from the medical profession will be regarded as strictly confidential, the consensus of opinion on the several points cannot fail to be of value in directing the course along which future legislation should travel. The motor industry in this country is becoming very important. Some idea of it can be gauged by the statistics, said to have been compiled from official sources, of M. Georges Prade, in which he calculates that in the first seven months of this year motor-cars and motor cycles of the value of £8,000,000 sterling were produced. This is a sufficient safeguard to insure that no unnecessarily restrictive legislation, tending to strangle the industry, will be introduced. In fact, we may be certain that all that is possible will be done for the motorist commensurate with due respect to the rights of other citizens. In our opinion the dust problem is the hard nut to crack. If the Commission can "lay" the dust, sensible and even-handed legislation can to a large extent "lay" the scorcher, and it will not be necessary to maintain the law by police traps. It is not, as

some motorists would have us believe, mere idle resentment that makes the motor-car unpopular. The danger to horse and to foot passengers, the noise, and the smell are all hard to bear, though presumably the law can mitigate such of these nuisances as advancing scientific knowledge will leave to be dealt with. There is every reason to believe that this residuum will be small. But the dust question is very serious. Along miles and miles of our roads there are beautiful houses and gardens rendered well-nigh uninhabitable owing to the clouds of dust that are thrown up by the wheels of heavy, fast-driven motors. The unfortunate inhabitants of such districts may well ask whether the references to the Royal Commission really go far enough.

"CANCER CURES" AND OTHER QUACK REMEDIES.

THE declarations of quacks have recently been made the subject of wholesome statements by His Majesty's judges. At Edinburgh Lord Ardwall stigmatised "Bile Beans," which were puffed as being an ancient Australian medicine, as a business built up upon "fraud, impudence, and advertisement," and as we mentioned last week his honour Judge Mulholland at the Hanley county court pointed out that every word on the label of "Dr. Astbury's Pure Herbal Pills" was untrue. From South Africa, that happy hunting ground of quacks, we have just received a letter from a correspondent who says that he is sending us a sample of a so-called cancer cure. He goes on: "It must have a very large sale in this country and is owned by a Mrs. van Niekerk and evidently made up for her by Heynes, Mathews, and Co., of Capetown. The enclosed was sold to me for one guinea, the usual price. It has a terribly high reputation amongst the Dutch, even the most highly educated, such as ministers, lawyers, &c. I have just seen a case of its application in which it was exfoliating cancerous pieces from the lower end of the femur. There was evidence of secondary deposits in the chest and possibly in the liver, so that amputation was out of the question and the patient's life was being sacrificed to this awful nostrum." The "remedy" which our correspondent inclosed was labeled "Aesiab Cancer Cure" and it was contained in a small glass vessel of a capacity of about three drachms. We submitted it to chemical analysis with the following result: tartar emetic, 41·0 per cent.; calcium carbonate, 9·6 per cent.; and fat, 49·4 per cent. Wrapped round the bottle was a circular in Dutch and incorrect English printed on yellow paper, in which after the method of applying the stuff in cancer has been described we are told that: "The ultimate cure is sure and certain if the patient will unremittingly apply the treatment and strictly in accord with these directions; it causes no inconvenience beyond the requisite attention and is so far above every other known or thought-of treatment for this painful disease, doing away as it does with the dreadful knife of a surgical operation—which latter, indeed, seldom effects a complete cure—while the 'Aesiab' will draw the cancerous poison entirely out of the system." This statement is signed "A. E. van Niekerk (born Schabort), Proprietor." To this statement the words of Lord Ardwall above quoted may be well applied. Tartar emetic or antimonium tartaratum is, as is well known, a powerful irritant and when applied to the skin in the form of ointment it produces a pustular eruption. It may well, therefore, as our correspondent says, exfoliate cancerous pieces but it would ulcerate healthy tissues in the same way. We observe that Mrs. van Niekerk says: "If no wound had appeared before the salve will draw a wound in about three days." This statement as far as we can see is the only fragment of truth in the whole circular. That unfortunate sufferers from cancer should be deluded into the belief that this nostrum will cure them of their disease is a cruel thing. The cruelty is perhaps increased by the proprietor having the impudence to charge £1 1s. for what costs her at a generous estimate 2*d*.

THE SOUTHWARK UNION AND GUY'S HOSPITAL: THE CASE OF LOUISA GOODYEAR.

IN July last an unhappy woman, named Louisa Goodyear, was refused admission to Guy's Hospital in circumstances which excited considerable comment in the press. That the condemnation of the authorities of Guy's Hospital was quite unjust now appears very plainly from the correspondence which has taken place between the Southwark union and the treasurer of Guy's Hospital and we trust that those who, from lack of proper information, passed sentence upon the hospital will revise their opinions publicly in the light of the facts. The story is as follows. Louisa Goodyear, who was suffering from chronic heart disease and who had been an in-patient at Guy's Hospital during February, March, and the first three weeks of April, came up on July 11th for readmission when there was no bed vacant. The house surgeon, recognising her serious condition, wrote her a letter of recommendation to the Southwark infirmary. She was taken in a cab, at the expense of the hospital, to the relieving officer and was admitted to the St. George's workhouse by the district medical officer. There she died 18 days later. On August 11th the clerk to the guardians of the poor of Southwark wrote to the authorities of Guy's Hospital asking why the case was sent away from the hospital and referred to the Southwark infirmary which is situated at East Dulwich-grove (some four miles distant from the hospital). This letter covered reports from the district medical officers, Dr. J. S. Hill and Dr. G. A. Paton, showing that the patient was received into the St. George's workhouse, which has no infirmary block attached to it, because she was considered in so critical a condition that to transport her further might have been fatal. The letter also included the recommendations of the St. George's relief committee that "the Authorities of Guy's Hospital be required to impress upon their Medical Staff that St. George's workhouse is not an infirmary, the infirmary of the Union being at Dulwich, four miles away," and that "a copy of the whole of the correspondence in this case be forwarded to the committee of management of the Hospital Sunday Fund and the King Edward's Hospital Fund for London.' To this communication Mr. Cosmo Bonsor has just made a reply of so satisfactory a nature that we doubt if the guardians will carry out the recommendation that the whole correspondence should be sent to the two Hospital Funds. Mr. Bonsor points out that the serious nature of the case was recognised from the first, as Louisa Goodyear was an old in-patient of the hospital; that steps were at once taken by the medical officer of the hospital to get her the benefits of institutional treatment when it was found that there was not a single bed available in Guy's Hospital; and that the absence of infirmary accommodation within the limits of the Southwark union reflects discredit upon the Southwark guardians, of whom he says: "It is this failure on their part to equip a proper out-post hospital (reception station) within their boundaries which is the real cause of the trouble that occurs from time to time; and to place blame upon Guy's Hospital is to ignore responsibilities which, when the attention of the ratepayers is once aroused, cannot long be disregarded. To quote from Dr. Paton's report, Louisa Goodyear if sent to the infirmary would very likely have died on the journey. No more serious charge could well be made against the Poor-law authorities of Southwark. It is as much to say that the sick

poor must remain in their miserable homes or must put up with workhouse treatment if at the time of their mortal need they are too ill to bear transference to an infirmary 'four miles distant.'" Mr. Bonsor concludes by hoping that the whole situation will attract the immediate attention of the Southwark guardians and of the Local Government Board to whom, he promises, a copy of the correspondence will be sent. He has evidently taken pains to suit his answer exactly to the communication which he had received.

THE GOLDSMITHS' COLLEGE.

WHEN the Goldsmiths' Institute at New Cross for the technical instruction of the people was closed the richest of the City companies offered to present the buildings and the recreation grounds to the University of London with an endowment of £5000 per annum for five years and an inaugural present of £5000. The Senate of the University speedily settled upon a satisfactory scheme for the management of the institution, the work of which will comprise classes in chemistry, physics, and engineering, art classes, and classes in domestic affairs for women, and last week the Goldsmiths' College was opened by Lord Rosebery as Chancellor of the University of London. We welcome an addition like the Goldsmiths' College to the resources of the University of London, for we regard the welfare of the University as of the first importance to medical men. It is to the University of London that the London medical student naturally looks for fair opportunities to obtain a medical degree, and that these opportunities will be forthcoming is, we venture to hope, certain as soon as the University can afford to provide them. Any addition to the wealth and influence of the University is a step forward towards the time when the education of the London medical student will fall naturally into the hands of the medical faculty of the University and when a University degree will be the natural goal.

SUMMER TEMPERATURES IN THE BRITISH ISLANDS.

THE following table gives the summary of temperature, rainfall, and bright sunshine at certain representative stations within Great Britain and the Channel Islands for June, July, and August of the present year compiled from observations published daily or weekly by the Meteorological Office. A similar table appeared last year in THE LANCET. Nearly every place was warmer than during the corresponding period of 1904, although the summer just elapsed had no spell of extremely hot weather and the month of August was almost everywhere noted for its defect of warmth. August, too, was so dull and wet that at the majority of the resorts the sunshine for the three months was much less, and the aggregate rainfall much more, than during the preceding summer. Comparing the various stations with each other it is seen that London was the warmest during the day and that the spots so geographically opposed as Great Yarmouth and Jersey had the warmest nights. The place with the coldest nights was not the most northern but Llangammarch Wells, where, owing to the topography of the surrounding country, terrestrial radiation after sunset is very great. As is nearly always the case the Scilly Isles experienced the most equable climate, having the very small range of 8° between the average day and the average night, but, contrary to what would appear probable, the most equable station after those little islands was Great Yarmouth and not the resorts on the south-west coast or Jersey. The duration of sunshine shows some rather remarkable variations; Torquay had 58 hours more than Plymouth, 63 hours less than Jersey, and between 80 and 90 hours less than Harrogate, Scarborough, and Blackpool. Westminster, Aberdeen, and Plymouth were the dullest spots but it is singular that the metropolis should be so little behind some of the seaside resorts in about the same latitude. The chief difference in the rainfall consisted not so much in the aggregate amounts, although they varied considerably, but in the relative dryness as shown in the number of days with rain (0·01 inch or more) along the east coast of England and at Harrogate. The wettest spot both in the total fall and in the number of days was Llangammarch Wells and the driest was Scarborough.

June, July, and August, 1905.

Stations.	Temperature.					Rainfall.		Bright sunshine—number of hours recorded.
	Highest shade maximum.	Lowest shade minimum.	Mean daily maximum.	Mean daily minimum.	Mean temperature.	Number of days with rain.	Total fall.	
Blackpool	81	38	66	52	58·5	44	7·42	692
Llandudno	77	44	67	54	60·1	42	6·96	604
Llangammarch Wells	79	35	66	48	57·0	52	9·63	
Scilly	72	48	64	56	59·5	51	7·09	605
Plymouth	76	46	66	55	60·4	44	7·68	542
Torquay	79	47	67	55	60·9	42	6·52	600
Jersey	81	49	68	57	62·5	44	6·22	663
Aberdeen	76	38	63	50	56·2	47	6·62	529
Scarborough ...	82	46	66	53	59·3	34	4·05	682
Yarmouth	80	47	67	57	61·8	35	7·33	?
Clacton-on-Sea ...	82	47	69	56	62·2	39	5·85	631
Margate	81	46	68	56	62·4	36	6·32	588
London (Brixton)	85	44	72	55	63·2	41	8·76	532*
Harrogate	81	40	67	50	58·7	35	6·84	681
Bath	80	42	69	53	60·9	44	8·14	575

* Sunshine recorded at Westminster.

"THE OPERABILITY OF BRAIN TUMOURS."

Dr. G. L. Walton and Dr. W. E. Paul of Boston made a communication on the above subject to a recent meeting of the American Neurological Association and their paper appears in the *Journal of Nervous and Mental Disease* for August, 1905. It is based upon records and specimens placed at the writers' disposal, apart from a few which were their own records, the total cases studied being 221. To these were added cases recorded by Blackburn in a recent report of necropsies in instances of intracranial growth, compiled from the records of *Brain* since the foundation of that journal, and also cases recorded by Knapp, bringing up the total number of necropsies in which such growths existed to 424. These cases the writers divide into three classes—operable, inoperable, and doubtful. The first designation is applied to those cases in which lasting relief might be expected from operation, the tumour being primary, accessible, well defined, and susceptible of removal without cutting into brain tissue. Such tumours spring in the great majority of instances from the dura mater. Into the inoperable class fall those cases in which the tumour involves the deeper structures of the brain, as well as most cases of multiple growths and of widespread metastasis. The doubtful class includes tumours—gliomata and non-encapsulated sarcomata are specifically mentioned—at or near the surface of the brain in accessible regions, many subtentorial tumours, and cysts; in the last-mentioned nothing beyond evacuation can be accomplished. Applying this classification to the cases investigated Dr. Walton and Dr. Paul find that no more than 3·3 per cent. were operable and 8 per cent. were doubtful. The former percentage is practically the same as Seidel's 3 per

cent. but differs much from the estimates of certain observers who place a more liberal construction on the designation "operable." A number of operable growths had failed to show localising symptoms. Many such were situated near the median line and under the frontal and temporo-sphenoidal lobes. Extended search over the surface of the brain is advised in preference to the plan of puncturing the brain substance in various directions in search of a deeply lying tumour—a procedure the futility of which the writers say is demonstrated by a study of a series of necropsies. This, they state, shows a noteworthy absence of deeply placed encapsulated tumours—such, that is to say, as are capable of being removed. But deeply seated diffuse growths and growths in inaccessible parts, whether encapsulated or not, must, as the large percentage of inoperable cases indicates, be often found in such a study.

STREET NOISES.

WE are glad to see that our annotation under the above heading, which appeared in THE LANCET of Sept. 30th, has been followed by action on the part of the Birmingham city council. The following paragraph appears in the *Birmingham Daily Post* of Tuesday last:—

BIG BRUM TO BE SILENCED.—The complaints of patients in private hospitals and others about the chiming of the Council House clock at night have been referred by the gas committee to the general purposes committee of the city council. The latter committee met yesterday afternoon and decided to adjust the automatic apparatus so as to cut off the chiming mechanism between 7.30 P.M. and 5 A.M. This will abolish the grievance of the concert patrons as well as that of the hospital patients.

Clocks and church bells are, however, not the only unnecessary noises of great cities and we in London are still patiently waiting for the suppression of the winner yeller, the "German band," and the regulation of the organ grinder.

THE CRYSTALLINE LENS IN HEALTH AND IN CATARACT.

WE gather from the introductory remarks of an address delivered in the University of Oxford by Sir William Collins on July 10th that both the lecturer and the subject of the lecture were selected by the reader in ophthalmology at Oxford, Mr. R. W. Doyne. The subject chosen was the crystalline lens of the eye which, from its form, exquisite transparency, and value in the mechanical functions of the eye, as well as on account of its pathological importance, has caused it to receive great attention at the hands of anatomists, physiologists, mathematicians, and surgeons. But old mines are sometimes well worth working and new methods of investigation not infrequently yield good results from ground that has long been regarded as exhausted. Sir William J. Collins has courageously attacked the crystalline lens. Commencing by the remark that due credit should be ascribed to the Saracen physician Alhazen who first recognised the functions discharged by the transparent media of the eye, he passes on to observe that the merit of discovering that a cataract was nothing but an opaque lens is attributable to M. Brisseau of Tournai in 1705. Sir William Collins points out that in all animals the region of the seeing organ presents three elements—a nerve fibre, pigment cells, and a crystalline medium. Pigment in animals, like chlorophyll in plants, not improbably plays an important part in facilitating absorption of chemical energy from the sun; the concentration of light by a crystalline lens would facilitate this heliophagic (sun-eating) process, whilst the stimulation of a subjacent nerve and the withdrawal of the stimulus by an opaque body would awaken a sense of externality, excite muscular action, and lead to locomotion. This is all intelligible and admissible enough but when Sir William Collins continues that "it is in contemplating the progressive development of such complexity and adaptation as the human eye that the insufficiency of natural selection as explanatory of the whole process is most apparent," we think he is guilty of heresy—a heresy that is refuted by Darwin in his chapter on the eye in the "Origin of Species," where he writes: "Reason tells me that if numerous gradations from an imperfect and simple eye to one perfect and complex, each grade being useful to its possessor, can be shown to exist, as is certainly the case; if, further, the eye ever slightly varies and the variations be inherited, as is likewise certainly the case; and if such variations be inherited, as is likewise certainly the case; and if such variations should ever be useful to any animal under changing conditions of life, then the difficulty of believing that a perfect and complex eye could be formed by natural selection, though insuperable by our imagination, cannot be considered real." That which appals and is incredible to Sir William Collins is conceivable to Darwin and encourages him to apply his theory, though the eye, he said, "gave him a cold shiver." Sir William Collins after describing the development of the eye, explains the occurrence of various vestigial traces, such as persistent hyaloid artery, persistent pupillary membrane, and the like. He gives the results of analyses that he has made in which he estimates the water that enters into the composition of the lens rather highly at 70 per cent. (other observers giving 63), whilst he gives the specific gravity at 1130 (other observers giving 1079 to 1121); the weight at birth 120 milligrammes, at ten years of age 160 milligrammes, at 45 years 220, at 65 years 250, and at 80 years about 260 milligrammes. He gives the volume of the lens in accordance with the statements of Becher and Priestley Smith, and finally the antero-posterior and transverse measurements of the lens at different ages, the antero-posterior measurement at 20 years being five millimetres and at 60 years six millimetres, whilst the transverse is eight millimetres at 20 years and nine millimetres at 50 years. He doubts, but here we think he is in error, whether the capsule is as elastic as the lens substance; the escape of the lens substance through a rent of the capsule and the retraction or gaping of a wound of the capsule seem to us to be conclusive evidence in favour of its elasticity. He discusses at some length various pathological conditions attributable to defaults in normal embryological conditions. Finally, he proposes a new and practical classification of cataract which is as follows: cataract or opacity of the lens may proceed from developmental causes; from cachectic causes—e.g., toxæmia—which may be from internal conditions, as diabetes, or external, as ergot or naphthalin; from secondary results of ocular disease, as in the case of some polar cataracts, myopic cataracts, and glaucomatous cataracts; from vascular disease, such as atheroma of carotid arteries or aneurysm; from nervous disease; and, lastly, from traumatism which may be either direct or indirect. The address is a very creditable one and we congratulate Sir William Collins, who is "a man of affairs," on being able to spare time from his numerous public duties to compose and to deliver it.

THE ATMOSPHERE OF QUEEN'S HALL.

WITH the demolition of St. James's Hall, Queen's Hall has become practically the only focus for musical entertainment in Central London. The musical performances given there are of such high quality and are so instructive as well as enjoyable that it seems a thousand pities that the enjoyment is marred, as it is to a great extent, by the want of any means for proper ventilation of the hall. The promenade concerts are always crowded, and rightly so, but we hear constant complaints from members of the audience concerning the condition of the atmosphere. From personal experience we

can say that to sit out even the first part of the concert which lasts for about one and three-quarter hours generally means a headache. The hall has practically no means of ventilation except the crude one of opening doors and windows. When this is done the draughts are so great as to be not merely uncomfortable but harmful, and when they are not open the atmosphere becomes unbearably stuffy. There is, it is true, a gas star in the roof communicating with a flue, but it is of little use to have an extractor for foul air when there are hardly any means of allowing fresh air to enter. At the promenade concerts smoking is allowed and the products of the combustion of tobacco contain a fairly high proportion of carbon monoxide. The products of the respiration of human beings contain a large proportion of carbon dioxide besides sundry organic poisons, so it is evident that when the hall is full the atmosphere must quickly become much deteriorated. We think that it would be wise policy from a financial point of view on the part of the directors to endeavour to instal some scheme for improving, if not for perfecting, the ventilation, for unless something is done we think it probable that the attendances will fall off. From other points of view it is possible that the works department of the London County Council may have something to say, although in our opinion that body erred in passing plans in which provision for ventilation was so imperfect.

MOBILITY OF THE HEART IN LEFT PNEUMOTHORAX.

IN the *Johns Hopkins Hospital Bulletin* for September Dr. W. J. Calvert has published an important case which illustrates a phenomenon which does not appear to have been observed previously—mobility of the heart in left pneumothorax. A lad, aged 19 years, was admitted into hospital on Feb. 6th, 1905. He had been ill since Christmas and had kept his bed for three weeks. On the morning of the day of admission he was seized with pain in the left side and dyspnœa. On the left side the intercostal spaces were obliterated and movement was almost confined to the upper three ribs. Percussion gave a tympanitic note over the left side, except near the seventh rib in the back, where the note was dull. The lower margin of the left pleural sac could be traced by percussion, which gave a different note to that of the stomach. The margin was at the lower border of the eighth rib in the mammary line, at the upper border of the ninth rib in the anterior axillary line, at the upper border of the tenth rib in the mid-axillary line, and at the upper border of the eleventh rib in the scapular line. Auscultation showed diminished respiratory sounds and a few moist râles on inspiration; once or twice an amphoric quality was observed. On the right side movement was increased and an occasional râle was heard. The apex beat was seen and felt in the right fourth and fifth spaces. Cardiac dulness was absent on the left side of the sternum. On the right side it extended from the third to the sixth ribs and outwards to a distance of five and a half centimetres from the middle line. The heart sounds were faint and distant on the left side of the sternum but on the right they were loud. When the patient leaned forwards the heart fell forwards against the chest wall on the left side of the sternum with a bound which was easily felt. The apex beat was then seen and felt midway between the para-sternal and the nipple line. On assuming the recumbent posture the heart fell back into its former position. Once it was thought that there was fluid in the thorax but positive signs were not obtained. There was moveable dull tympany in the lower portion of the chest but puncture yielded only air. The patient remained in hospital 23 days, during which time little change in the signs occurred. The temperature never rose above 101° F. and became normal during the first week. Towards the close of the period pulmonary resonance developed at the apex and gradually extended downwards and the cardiac dulness gradually appeared to the left of the sternum. The mobility of heart observed in this case is usually seen in hydro- and pneumo-pericardium but both these conditions were excluded. The explanation appears to be as follows. The pressure of the pneumothorax caused the left lung to collapse against the posterior thoracic wall (as shown by the dulness in this position) and also pushed the pericardium with the heart to the right. Normally, the heart is held in position by its attachment to the great vessels and the support of the lungs. In the left pneumothorax the support of the left lung is withdrawn and a swinging movement of the heart on its attachments to the great vessels becomes possible. When the patient leans forwards the action of gravity produces this movement and the swinging of the heart brings its apex into contact with the chest wall on the left side of the sternum. In hydro- and pneumo-pericardium this mobility of the heart is well known and is due to a similar cause—the physical condition permitting this swinging movement.

THE FIRST BELGIAN CONGRESS OF NEUROLOGY AND PSYCHIATRY.

ON Sept. 28th and 29th there was held at Liége, in connexion with the International Exhibition which is now in progress in the city, the first Belgian Congress of Neurology and Psychiatry. The opening meeting took place in the buildings of the university, where M. de Latour, Director-General of the Ministry of Justice, received delegates from France, Germany, Holland, Switzerland, Turkey, and Roumania. Dr. Glorieux began the formal business of the Congress by delivering an address dealing with the occurrence of neurasthenia among the working classes. This disease was, he remarked, popularly supposed to be confined almost entirely to persons for whom the struggle for existence was a mental rather than a physical one, though probably the unrestrained pursuit of pleasure was also in some degree responsible for its development. Statistics, however, showed that in both Germany and Belgium the incidence of neurasthenia upon artisans was very marked, while in Scandinavia insurance companies have been so severely taxed by the extension of the malady that they have found it advisable to construct special sanatoriums. Dr. Glorieux referred to the view that neurasthenia may be due to the toxic effects of influenza but he himself attributed the disease to the insanitary environment in which work is often carried on and he looked to the more general introduction of machinery and the consequent regulation of the conditions of labour for improvement in this regard. In the afternoon Mdlle. Joteyko, chief of the Psycho-Physiological Laboratory of the University of Brussels, contributed a paper on the Sense of Pain and Dr. Lannois of Lyons one upon Epileptiform Spasm of the Foot, while Dr. Heilporn of Antwerp described a case of Acromegaly. The morning of the second day was devoted to a visit to the asylum of St. Agatha and to the discussion of Dr. Cuylit's paper entitled "Work in the Therapeutics of Mental Maladies." A visit was also paid to the *maison de santé* at Glain and after lunch the scientific section of the exhibition was inspected.

REST IN THE TREATMENT OF LARYNGEAL AND PULMONARY TUBERCULOSIS.

IN the *American Journal of the Medical Sciences* for September Dr. W. P. Porcher has called attention to rest in the treatment of laryngeal and pulmonary tuberculosis—a condition which may be said, paradoxically, to be neglected because its value is so obvious. In disease of the eye the prescription of rest is not forgotten but in disease of the throat how often is the patient forbidden to use his voice?

Disuse of the voice even for several months will not result in ankylosis of the joints of the larynx, for the respiratory movements will prevent this. Rest of the larynx should also be secured by reducing cough as much as possible, though no doubt a certain amount of cough is both necessary and beneficial in order to expel morbid products. Dr. Porcher relates the case of a school teacher who had extensive infiltration of the laryngeal mucous membrane but no ulceration. The apex of the left lung gave a dull note and tubercle bacilli were found in the sputum. The temperature varied from 99° to 101° F. Though the patient had been attended by five practitioners not one ordered him to discontinue the use of his voice. Complete cessation of phonation was ordered, small doses of Dover's powder and quinine were administered at night to secure sleep, and the patient was told to drink milk instead of water and to eat as many raw eggs as he could assimilate. All his symptoms abated, he gained flesh, and the laryngeal inflammation almost disappeared. It is important to note that the improvement took place without any special climatic treatment or sleeping out of doors. The patient was simply told to keep his room well ventilated and to stay in when the weather was inclement. Rest of the body generally is also important in the treatment of tuberculosis, especially when there is any pyrexia.

THE SOURCES AND PROPERTIES OF EUCALYPTUS OIL.

THE recent clinical note on a case of acute poisoning by eucalyptus oil by Dr. Henry S. Taylor[1] calls attention to a possible source of danger in a medicinal preparation which generally has been regarded as innocuous. Eucalyptus oil is a comparatively recent introduction into this country, having come into use about 30 years ago. It acquired a wide vogue during the series of epidemics of influenza in the early "nineties" and has since become a popular domestic remedy for colds. The toxic properties of the oil are referred to in Lauder Brunton's "Pharmacology, Therapeutics, and Materia Medica," p. 925, from which work the following passage is quoted: "In large doses after absorption it appears to act chiefly on the nerve centres, producing paralysis and death. In invertebrata killed by exposure to its vapour the paralysis is preceded by excitement, but in vertebrate animals the paralysis is not preceded by excitement. Its depressing action on the spinal cord is so great as to abolish reflex action even when it has been previously increased by brucine, and from depression of the brain, medulla, and heart there is drowsiness, feeble respiration, lowered blood pressure, and fall of temperature. Death occurs from paralysis of the respiration." The symptoms referred to by Dr. Taylor agree with those recorded here and incidentally it may be remarked that they show a great similarity to those produced by large doses of camphor. The maximum official dose of eucalyptus oil is three minims, a dose which was largely exceeded in the case cited. It is very probable that too large a dose is usually taken by those who employ it as a domestic remedy, the custom being to saturate a lump of sugar with the oil. The genus *Eucalyptus* is a very large one and the oils obtained from many species are admitted in the Pharmacopœia. Broadly speaking, the oils of eucalyptus may be divided into two classes, those containing cineol and those containing phellandrene. Cineol or eucalyptol is a neutral body to which the oil owes its antiseptic and medicinal properties. Phellandrene is a terpene; it produces coughing and irritation when inhaled. Hence, those oils which contain cineol and are free from, or exhibit a small proportion of, phellandrene—e.g., the oil of *Eucalyptus globulus* and many other species—are official, whilst the oil obtained from *Eucalyptus amygdalina* and other species rich in phellandrene are excluded from the Pharmacopœia. Previously to the publication of the present Pharmacopœia *Eucalyptus amygdalina* was considered to be the best source of the oil. The oils of *Eucalyptus globulus* and some other species contain another constituent, the terpene pinene; other constituents of various eucalyptus oils include the aldehydes citral, citronellal, and cuminol. Since oil of camphor contains several of the constituents which are found in the oils of eucalyptus—e.g., pinene, phellandrene, and cineol—it is not surprising to find a similarity between these drugs in respect to their physiological properties. In view of the great differences found in the constitution of the different oils of eucalyptus it is important that the source of the oil should be known in carrying out a clinical investigation of its properties. The sources of the various oils of eucalyptus have been exhaustively examined by Mr. Richard T. Baker, curator of the Technological Museum, Sydney, New South Wales, in conjunction with the assistant curator and others. The results of the work were published under the title "A Research on the Eucalypts and their Essential Oils" (Sydney, 1902). A supplementary account of the eucalypts of Western Australia by the same writer appeared recently in the *Pharmaceutical Journal*.[2] For full particulars as to the chemical constituents of the various oils these monographs should be consulted.

[1] THE LANCET, Sept. 30th, 1905, p. 963.

THE BRITISH LIQUOZONE COMPANY, LIMITED, AND ITS METHODS.

WE have before us a letter addressed by this concern to a druggist which is typical of its methods and we call attention to it in the hope that if any are unscrupulous and foolish enough to fall in with suggestions such as are made in it their customers may recognise the methods employed and may take steps accordingly. The letter is accompanied by a slip of pink paper having explanatory advertising matter printed on one side of it, including a list of "germ diseases," in which are comprised varicocele, dyspepsia, dandruff, "women's diseases," hay fever, and piles, and on the other side ruled spaces for the names of the druggist's diseased customers to whose notice he is to introduce "liquozone." On receipt of the slip with the patients' names duly inscribed the Liquozone Company proposes to forward an order to each sufferer whereby he will obtain a free bottle of liquozone from the druggist who has supplied his address and has furnished particulars of his ailment to it. He will, however, only be informed that a "friend" who "knows about liquozone" told the company that he, the patient, needed it. Another mode of doing business is explained and commended to the druggist in the following paragraph which we extract from the letter referred to. "In a great many instances you can discern your customers' complaints by the nature of their purchase, and can suggest at that time that if they have not tried our preparation you will be pleased to add their name to the list for a bottle. By so doing you are enabled to extend a courtesy to your customers at our expense, which courtesy is reciprocated by a return to your store, not only for liquozone, but for their other requirements also." These are the methods suggested by the Liquozone Company to those who have bottles of liquozone still on hand which have been sent them for free distribution and which seem likely to remain on hand owing to what the company calls "our cessation of advertising preceding our autumn campaign." The suggestion is not a new one but has, we believe, been frequently made in *Truth* with regard to touting circulars that the inclosure of offensive matter in an

[2] Pharmaceutical Journal, Sept. 9th (p. 356), and 16th (p. 382), 1905.

envelope and its return, unstamped, to the sender is perhaps the best method of getting rid of it.

BREAKING UP THE STREETS.

IN our issue of April 15th we mentioned that the Westminster city council had issued a circular to various road-breaking companies announcing that it was the intention of the council to repave sundry streets within the City of Westminster on or about certain definite dates, and that the said road-breaking companies had been informed in order that they might carry out any repairs or alterations to their mains and service immediately prior to, or during the execution of, the proposed work. We further stated that we very much doubted whether the various companies would do anything to fall in with the wishes of the Westminster city council. A peculiarly flagrant instance bearing out our contention has occurred during the present week in Regent-street. This street was duly relaid with wood during the month of August and part of September. The work on the portion of the street to which we now refer has been finished, so far as we recollect, about four weeks. The London Hydraulic Power Company has now descended upon the street and has made a T-shaped excavation across the eastern side of the street about in the middle of its length—i.e., almost opposite No. 182. To the ordinary dweller in the district there seems no earthly reason why the London Hydraulic Power Company should not have executed the work which it is doing when the pavement was up, as it does not appear to be a question of an emergency matter, such as a burst main. We asked the foreman of the gang for information and he replied with perfect candour that he thought it was a very good thing that the work was not carried out when the street was up as it made work. Of course, neither the foreman nor his gang are responsible and what we should like to know is, why the London Hydraulic Power Company failed to comply with the wishes of the Westminster city council. Why should work for which ratepayers are heavily rated be practically destroyed? Why, again, should one half of the road be almost closed to traffic simply because a commercial company does not choose to execute the work at the time when it can be most easily done? There must be, we think, some diabolical obsession about a newly paved road, for no sooner is the work completed than a gas, water, hydraulic power, electric, telephone, drainage, tramway, or railway tube company takes it up again.

A COURSE of lectures on Applied Physiology will be delivered at the Westminster Hospital Medical School of the University of London, on Thursdays at 5 o'clock P.M., commencing on Thursday, Oct. 12th, by Dr. B. L. Abrahams, assistant physician, Westminster Hospital, and examiner in physiology to the English Conjoint Board. The lectures will be open, without fee, to all graduates and students of the University. The Westminster Hospital Medical School is in Caxton-street, Westminster, three minutes from the hospital and one minute from St. James's Park Station, District Railway.

A MEETING will be held on Oct. 24th next at 4 P.M. at the Mansion House, the Right Hon. the Lord Mayor presiding, to further the aims and objects of the Semi-Teetotal Pledge Association, which was established with a view to check the habit of "drinking between meals." Tickets can be obtained from the secretary, Semi-Teetotal Pledge Association, 4, The Sanctuary, Westminster, London, S.W.

THE Odontological Society of Great Britain is prepared to receive applications for grants in aid of the furtherance of scientific research in connexion with dentistry. For particulars and forms of application communications should be addressed to the honorary secretary, Scientific Research Committee, Odontological Society, 20, Hanover-square, London, W.

THE Lettsomian lectures of the Medical Society of London on Some Points in the Surgery of the Brain and its Membranes will be delivered on Feb. 5th and 19th and March 5th, 1906, by Mr. C. A. Ballance. The anniversary dinner of the society will take place at the Whitehall Rooms, Hôtel Metropole, on March 14th, 1906, at 7 P.M.

FORTY-SEVENTH ANNUAL REPORT OF THE GENERAL BOARD OF COMMISSIONERS IN LUNACY FOR SCOTLAND, 1905.

ON Jan. 1st, 1905, there were in Scotland 17,241 insane persons under official cognisance, of whom 2551 were maintained from private sources, 14,640 by parochial rates, and 50 at the expense of the State. Establishments for the insane in Scotland arrange themselves in the following groups: Royal asylums (7), district asylums (19), private asylums (3), parochial asylums (3), and lunatic wards of poor-houses (12). In addition there are two training schools for imbecile children and a department for insane criminals at the general prison at Perth. The number of private asylums is seen to be very small and between them these accommodated only 123 patients on Jan. 1st, 1905. The general results for 1904 as compared with 1903 give for registered lunatics (amongst whom are not included the inmates of the training schools and the prison) an increase of 368, of whom 342 were paupers, the great bulk in public establishments. No less than 60 per cent. of this pauper increase was contributed by the county of Lanark. The number of private patients admitted into establishments was 91 less than in 1903 and six less than the average for the quinquenniad 1900–04. That of pauper patients was 118 in excess of the number in 1903 and 83 more than the average for the same quinquenniad. As regards admissions in proportion to the population, private patients show no increase and pauper patients a considerable increase during the past 30 years, but the increase of this class is small during the last quinquenniad as compared with that immediately preceding and confined to certain counties, most parts of the country showing a fall. The number of pauper first admissions has not increased for the past five years, a gratifying statement, especially when considered in conjunction with that immediately preceding it. The proportion of recoveries per cent. of admissions in Royal and district asylums, the two most important classes of institution, was 33·2 for 1904, the average for the quinquenniad 1900–04 being 36·8. The death-rate on the number resident in these asylums for the same periods was 8·9 and 9·3 respectively. The average percentage of each cause of death in asylums and other establishments is given in tabular form; the figures for pulmonary tuberculosis as reckoned from the absolute annual average of the last quinquenniad are 11·6 for males and 14·6 for females. These figures we find to be much the same for each quinquenniad since 1880–84; the latter may be described as moderate for asylums of the average size of the Scottish institutions, the former as low. The figures for general paralysis, reckoned similarly from the last quinquenniad, are 22·4 for males and 5·5 for females, and they have been practically the same since 1890–94. The average percentage of deaths from diarrhœa and dysentery, reckoned similarly, amounts to no more than 0·3 for males and 0·7 for females, the same low figures being recorded since the quinquenniad 1890–94, and previous figures since 1870 show a gradual reduction in mortality from these causes. Commenting upon changes amongst the attendants and servants, the Commissioners find that these take place chiefly amongst the juniors; 76 per cent. of those occurring during 1904 were voluntary resignations. It is not satisfactory to learn that the prison service is more attractive than that of the asylum because in the former a pension is given. The statement appears without any comment. The number of private patients provided for in private dwellings

with the sanction of the Commissioners was 125 on Jan. 1st, 1905. The Lunacy Board in Scotland is not required to have official knowledge of such patients if not kept for profit, not restrained, and not cruelly used. But all pauper patients in private dwellings are directly under its supervision, a matter in which Scotland is in advance of other parts of the kingdom. The number of this class was 2704 on Jan. 1st, 1905, being an increase of 46 on the preceding year's numbers. The guardians of such patients may or may not be related to them. From a table provided it appears that the number of pauper patients so boarded is greater than the number in 1896 by four only. The intervening years show no great fluctuations in numbers. We may follow the Commissioners in a closer examination of this table. It is divided into two columns, the first showing patients resident with relatives and the second those boarded with strangers. The numbers in the first column show a tendency to fall during the past 13 years and are 969 for this year as compared with 1043 in 1891. The second column refers in the main to patients boarded out from asylums and the numbers on the whole show a tendency to fall since 1896, though 1905 does show a rise of 54 over 1904. To quote from the report, "it cannot be overlooked that the fall or arrested increase has taken place notwithstanding a large increase of population and an ever-increasing number of patients in establishments." The state of things revealed by these figures is significant. In Scotland, as in England and Wales, there is apparently an increasing disinclination to maintain cases of harmless mental disorder at home; and, furthermore, many Scotch asylum authorities would appear to be availing themselves less of the boarding-out system than in the past. Nevertheless, the number of pauper lunatics boarded out in private dwellings in Scotland is considerably higher than in England and Wales, the figures on Jan. 1st, 1905, being 18·4 and 5·09 per cent. of the total number respectively. The accommodation for the poorer class of private patient is deficient, a subject fully discussed in a previous report; the Commissioners content themselves with repeating the opinion that permissive power should be given to the district asylums to provide such accommodation. In this respect matters are better, though in need of further improvement, in England. The average net maintenance expenses for pauper lunatics in the district asylums for the last financial year was £27 2*s.* 4*d.* per head. In English county asylums they were £26 7*s.* 7*d.*

The report passes on to consider the statistics of lunacy from 1858 to 1905 in the form of a quinquennial retrospect and the outstanding fact demonstrated is the increase in the number of pauper lunatics provided for in establishments. A table is given showing that between the quinquenniads 1880–84 and 1900–04 this increase amounts to 63 per 100,000 of the population, or, taking the population at 4,600,000 at the close of the last period, an increase of 2898 pauper patients resident in establishments over and above any increase which can be accounted for by an increase of population. The Commissioners proceed to inquire how far this growth in numbers is explained by (*a*) an increase in the number of admissions, (*b*) a decrease in the number of discharges, and (*c*) a decreased death-rate, and make it clear that the constant accumulation in establishments is due to a continuous and increasing fall in the rate of discharge. The main causes for this would appear to be the following: an increasing readiness to take advantage of public asylums and a corresponding unreadiness to receive patients back from them; the reception in increasing numbers of old, physically disabled people, unfit for discharge; a natural desire on the part of asylum administrators to control large rather than small establishments, with which is associated the belief that it is better for the patients and the community that the former should be where they are and the knowledge that quiet working patients reduce the expenses of the asylum; the erection of accommodation much beyond immediate needs; and the lessened activity of parochial authorities in the matter of removal of patients who have ceased to benefit by asylum care. In view of the fall in the number of discharges of pauper lunatics from asylums it is not surprising to find from Table II. that the proportion to population of such patients in private dwellings, both resident and admitted, shows a tendency to fall, especially during the last quinquenniad.

The report is accompanied by a large number of statistical tables. Amongst the appendices is one dealing with the results of visitation by the Commissioners of patients in private dwellings, which is of much interest, especially as showing the bearing of the method of boarding out of the chronic and harmless insane upon the poor-rate.

REPORT ON PLAGUE IN CALCUTTA FOR THE YEAR ENDING JUNE, 1904.

THE official report on plague in Calcutta for the 12 months ended June 30th, 1904, by Dr. T. Frederick Pearse, officiating special health officer, with appendices by Dr. W. C. Hossack and Dr. H. M. Crake, has only recently been issued. The method and care with which this report has been drawn up is highly creditable to the medical officers concerned and is of considerable value epidemiologically. The opportunity of studying a recurring epidemic disease during the "quiescent" periods and watching its development and decline during the "active" periods of its course is a unique experience in medicine but it is one which has been taken full advantage of by Dr. Pearse and his staff. The most striking feature of plague in Calcutta, as in other parts of the world, is the persistency of the seasonal recurrence. It is not only known, for instance, that plague in Calcutta will reach its maximum development during the month of April and its fall to a minimum level in July, but the very weeks during which these limits are attained recur year after year with notable regularity. The coterminous appearance of plague in rats and man is confirmed by the observers in Calcutta to a striking degree. In the month of January of each year the mortality in rats increases and cases of plague of the bubonic type reappear in man about the same time. In the report this fact is merely placed on record. Speculation as to the relationship of the disease in rats to the infection of man is withheld; there is undoubtedly wisdom in this, for unless distinct and experimental proof for or against direct infection from rats is to hand it is useless to reopen this much-discussed subject.

The type of plague during the "quiescent" period—i.e., during the season when the disease is more or less of a sporadic character—differs to some extent from that encountered during the period of "active" outbreak. This point is especially dealt with by Dr. Hossack. With the approach of the active period the bubonic type prevails and increases as the outbreak waxes in virulence. With the wane of the outbreak the bubonic type of the disease diminishes and is rare or altogether absent during the quiescent stage. Cases of illness during the quiescent period are in danger of being returned as plague when in all probability they are due to other causes and so conclusively has this been shown to be the case that there are probably many more cases notified to be plague than actually occur. Dr. Hossack is so impressed with this possibility that he states that "in fact, it seems to me that for a period of two or three months the city is practically free from plague." With, however, the utmost care on the part of the medical staff, exact computation of the actual number of plague cases in Calcutta under the present system of registration is impossible. When a death is reported the medical inspectors are dependent on the history of illness given by the friends of the deceased, whether the patient suffered from plague or not. As the majority of the cases are not seen alive and most of the dead are buried without post-mortem examination, it will be seen that all cases of plague are not, and cannot be, examined bacteriologically. In this way errors arise, so that the notification of disease, even with a full and competent staff of plague workers, must in a large native city always be incomplete. The case mortality from plague, whatever the season, stands at over 90 per cent. and it is actually computed to be higher during the quiescent than during the active period of the disease.

The chairman of the corporation of Calcutta states that "the operations of the plague department caused no excitement or agitation. The upper middle class people are pleased at the removal from their neighbourhood of insanitary bustees (dwellings), which they regard as a sanitary danger to themselves, while the compensation paid to individual hut-owners is amply sufficient, more especially as the hut-owner is allowed to retain the materials of his hut. No objection is raised against disinfection in Calcutta." This statement is satisfactory and encouraging and it may be owing to the

absence of active obstruction by the inhabitants of Calcutta, combined with the praiseworthy efforts of the efficient medical staff, that plague has been so limited in its extent in Calcutta.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Oct. 6th, 1827.

It will be seen in another part of our publication, that the worshipful company of Apothecaries has just put forth a new series of regulations, the effect of which will be greatly to extend the period of attendance on lectures by the candidates for their valuable license. These incorporated shopkeepers seem to have no conception of any other ingredients in the qualification of a candidate, than the *time* and *money* he has expended in preparing himself for his profession. This absurdity pervades in a great degree all existing tests of medical qualification; as if the *knowledge* of the candidate were not the only fact which it is of importance to ascertain. If a student possess the requisite knowledge to enable him to embark in the medical profession, what matters it *where* or *when*, or *under whose instruction*, he has acquired that knowledge. One student may acquire the same degree of professional information in half the time required by another; ought his superior abilities, or diligence, to be made the ground of rejection? Let adequate *public examinations* of candidates for the medical profession in all its branches, be established, and all conditions of admissibility, except the single condition of the candidate's competency, might be at once dispensed with. Mere *viva voce* examinations are inadequate tests; let candidates, in addition to operations and dissections publicly performed, be required to furnish written answers to a series of printed questions on the different branches of professional knowledge, according to the plan adopted in examinations for mathematical honours at Cambridge, and their competency or incompetency would be put upon record.

If such a system of public examination were adopted, it might tend to put an end to the strife which at present agitates the different classes of practising physicians. War, horrid war, is the order of the day among the "Fellows," the "Licentiates," and the "Independents." We have our eye on the several combatants, but have forborn hitherto from taking any part in the strife. If the contest should terminate like that of the Kilkenny cats, which fought till they left nothing on the field of battle but their respective tails; if in short, the *pure* "Fellows," the *pure* "Licentiates," and the *pure* "Independents," should finish the combat by destroying one another, we know not that the public would have any great reason to regret their annihilation. In the absence of such a test of medical ability as that which would be afforded by public examinations, it cannot be denied that an academical education at Oxford or Cambridge affords a better security to the public, for the competency and respectability of a practitioner, than the mere fact of possessing a Scotch diploma. The academical education may not of itself afford much opportunity of acquiring professional knowledge, but a man who has incurred the expense of such an education, for the express purpose of taking a medical degree, is more likely to qualify himself for the discharge of professional duties, than one whose diploma may prove nothing but the fact of an outlay of capital to the amount of fifteen pounds.

We adverted, on a late occasion, to the injurious consequences which resulted from the *out-patient* system at our public hospitals and infirmaries, both as regarded the interests of medical practitioners, and the due administration of relief to patients within the walls of those institutions. The subject was rather broached than discussed, but it has elicited a vast number of communications from correspondents residing in every part of the empire, and we shall take an early opportunity of returning to it. We may observe, however, that this is one of the many abuses of which the profession has ample reason to complain, which admits of no remedy in the absence of an efficient governing body.[1]

[1] Excerpt from Prefatory "Advertisement" to Vol. I., 1827-8.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS AT PARIS.

(FROM OUR SPECIAL CORRESPONDENTS.)

Paris, Oct. 1st.

A PRELIMINARY INSPECTION.

THE first experiences gleaned from an inspection before the actual opening of the Congress seem to indicate that the Congress is well organised. In spite of the great rush of members there is but little confusion. The member's ticket is in itself an ingenious device. The number on the ticket corresponds with the number of the receipt for the subscription which the member shows on claiming his ticket. Under this number are little partitions with the following titles: insignia, invitations, volume of reports, volumes of summaries, guides, &c. The clerk having found the applicant's ticket goes with it to various shelves and takes down one of each of the above items; he then punches a hole in each portion of the ticket to show that he has given all the publications, &c., indicated, and the member at once finds himself "in order." The order involves, however, a certain amount of disorder, for the books and reports are extremely heavy and there are also rolls of maps more than two feet long. It was amusing to see learned professors with their hats knocked on one side and their hands too loaded with parcels to put them straight again, or to note that the best fit in coats was utterly destroyed by attempts to stow away a portion of the cumbrous literature in pockets that, under such a test, seemed intended for ornament rather than for use. Again, if each individual could have devoted all his strength of mind and muscle to deal with the small library which was bestowed on everyone the difficulties might have been overcome. But this leisure was never granted. Just as the heavy weights have been skilfully distributed and balanced a new arrival is likely to insist on such hearty greetings that some of the volumes are nearly certain to slip from their hold and clatter down on the dusty floor.

The Palace of the Arts is very beautiful with its sea-green and gold drapery hanging gracefully from the balconies and the walls. There also is the cluster of flags of all nations over the dais or loggia where to-morrow M. Loubet will open the Congress. It is said that these draperies have not been used since the time of the wedding of Napoleon III. This may perhaps account for the very artistic toning down of the colours, so that they now suggest in the delicacy of their tints an ancient Persian carpet rather than modern drapery. The rooms where the sections will sit are hung with Gobelin tapestry and, in fact, it is quite evident that though this is a congress of science it is meeting in the Palace of the Arts. The very insignia which each member must now wear are works of art. On one side there is embossed a view of the Grand Palais where the Congress meets and on the other a lady gracefully reclining and welcoming the sun that shines upon her as she is enjoying the open-air treatment. This badge with its white ribbon is conspicuous, so that the congressists will easily recognise each other and will be more readily marshalled into the various trains of which there are seven, which next Thursday will take the members to visit the different sanatoriums. Some of these are situated at great distances from Paris as, for instance, Montigny-en-Ostrevent, near Douai, and Berck-sur-Mer, near Boulogne-sur-Mer. Then when the Congress is over, on Saturday afternoon and Sunday next there are to be further excursions.

As for the work of the Congress that seems to have been prepared in good time. The reports—that is the official reports which have been drawn up especially for the Congress by selected experts and which are to form the basis of the discussions—are all published and constitute a big volume of 650 pages. Then these same reports are summarised in a smaller volume of 125 pages. Further, any member of the Congress was at liberty to send in a paper on any point bearing on the work of one of the four sections. Several hundred such papers have been sent in. Another volume of 122 pages only suffices to give the titles of these papers and in a few instances very brief summaries, just a short paragraph setting forth their contents. It is difficult to see how time can possibly be found to read all these papers,

still less to discuss them. This matter becomes the more complicated as by far the largest number of papers has been sent to the First and Fourth Sections. The First Section, devoted to the Medical Pathology of Tuberculosis, occupies 56 pages of the catalogue with merely a list of the papers that are to be read in this one section. The Second Section, dealing with Surgical Pathology, occupies only 16 pages. In the Third Section, which is to discuss the Protection and Assistance of Children, the list of papers occupies 12 pages; but the Fourth Section, the section of Social Hygiene, fills up 42 pages of the catalogue. It is evident that all these papers cannot be read, and at least the First and Fourth Sections will have to split up into subsections. Indeed, the danger of the congress is that of being overwhelmed with written communications, which may be very interesting to study at home but are very irksome when read out, often indistinctly, to an audience. With an audience, on the contrary, it is the discussion, the animated extemporary discussion, that constitutes the really interesting and fruitful work of a congress. To discuss the reports drawn up by selected experts would more than suffice to occupy all the time of the Congress without attempting to take into consideration the communications sent in by individual members. However, it is probable that the members will soon come to the conclusion that the majority of papers had better be "taken as read" and thus will secure for themselves a little time for discussion.

Oct. 2nd.

THE OPENING CEREMONY.

Long before the appointed hour the usual quiet under the trees of the Champs Elysées was disturbed by the sound of many voices speaking in strange tongues, as members of the Congress, coming from all parts of the world, strove to be early enough to secure good seats for the opening ceremony. The weather was not favourable. Cold and grey, the earth damp from recent rains, and the leaves falling, stricken by the northerly winds, all seemed to herald an early winter. But once within the magnificent rotunda the gilded decorations replaced the missing sun and electric lights showed up the many stars and orders worn by the assembly. Then there were the steel casques and breastplates of the Republican Horse Guards, those big men from Normandy, who with drawn swords stood like statues, forming a living wall on the steps of the dais or platform. At the back of this sort of stage hung a magnificent Gobelin tapestry representing the school of Athens. Above there was a canopy of ermine and in front some of the green and gold drapery to which I have already alluded, but this was in a large measure covered with bright and heavy gold embroidered designs on white satin. These decorations, the noble design and size of this circular hall or rotunda with its galleries and dome above its graceful loggias below, elicited very general admiration.

Though the space was so ample every seat was soon taken up and there were large crowds standing in the galleries. On the platform a certain number of distinguished personages had already taken their places but the first two rows of seats were vacant till the arrival of the President of the Republic. Of course, the band of the Republican Guards, the best military band in France, was in attendance and struck up the "Marseillaise" as M. Loubet approached leading the President of the Congress. M. Loubet, with infinite gentleness and kindness, seemed to forget that he was President of the Republic in his desire to support the somewhat faltering steps of the aged President of the Congress. It was not till M. Loubet had safely seated Professor Hérard in a comfortable armchair that the President of the Republic re-assumed the dignity of state, faced the audience, and then took the chair. Immediately on the President's right M. Léon Bourgeois, the Prime Minister, M. Rouvier, and several other members of the Government were close at hand. Among the members of the Diplomatic Corps the German Ambassador occupied a prominent place.

The proceedings began by Professor HÉRARD'S address but few were able to hear it. Even within a few yards' distance it was difficult to catch more than an occasional word which was all the more regrettable as Professor Hérard, not only by reason of his scientific attainments, but in consequence of his great age, has had so vast an experience that he was certain to have interesting observations to make. Indeed, he began by relating what was done in 1867 and there are not many persons living who can remember these early efforts.

Dr. C. THEODORE WILLIAMS, delegate of the British Government, said: On the part of the British Government, of which Dr. H. T. Bulstrode and myself are delegates, I thank you for the courteous invitation to this Congress of Tuberculosis and I trust that its efforts and labours will render good service to all nations. France has always contributed largely to the advance of medical science and has played a splendid part in the investigation of tuberculosis. What a debt medical science owes to the great French pioneers of the last century for their researches—to Bayle, to Andral, and above all to Laennec, the discoverer of auscultation. Later we come to Louis, the first to introduce the statistical method into the study of tuberculosis, and then to the great clinician Trousseau, whose pupil I had the honour to be 40 years ago; next to Villemin who, by his experiments, proved the contagiousness of tuberculosis; and lastly, to Pasteur whose brilliant researches threw rays of light into every department of the science of medicine. Of late years there has been no lack of excellent workers at the subject in France—Peter and Potain among the past and Hérard, Robin, Huchard, Bouchard, Grancher, and Landouzy among the present fitly uphold the glorious traditions of French investigation. In Great Britain the fight against tuberculosis is being carried on with vigour and the mortality from this disease has diminished two-thirds during the last 50 years. Our leader, King Edward VII., proves in word and deed an excellent example. He is patron of the National Association for the Prevention of Consumption and is at present building one of the finest sanatoriums in the world. It is 60 years since Great Britain began to erect hospitals for consumption and now she is constructing sanatoriums for all forms of tuberculosis, for rich and for poor. The voluntary notification of consumption is almost universal and regulations against spitting in public places and vehicles have been largely adopted. In certain instances local authorities have been allowed by the Local Government Board to contribute to the structural expenses of sanatoriums and in other instances beds at sanatoriums are retained by local authorities by payment of annual contributions to the current expenses. We have as yet relaxed none of our vigilance with reference to the control of bovine tuberculosis and the interim reports of the Royal Commission appointed to investigate the relation of bovine to human tuberculosis have thus far justified our action. Facilities for the gratuitous bacteriological examination of sputum suspected of being tuberculous are afforded by a considerable number of local authorities. The fight against tuberculosis, so well described by Professor Brouardel, is not simply a struggle with the tubercle bacillus and its allies, nor even with that state of the human body which promotes the increase and spread of the microbe. In order to extirpate tuberculosis we must change the modes of life which predispose the human body to the attacks of the tubercle bacillus; such are poverty, overcrowding, living in unhealthy dwellings and on damp soils, alcoholism, and other depressing conditions which convert the human body into a soil fit for the growth of the tuberculous seed, for as long as these conditions are present the consumptive patient will be liable to fresh invasions of the legions of the bacilli. We must not lose sight of the possibility of conferring immunity on our race by means of the inoculation of protective serums—a subject now largely under investigation—on the fruits of which this Congress may throw great light and evoke new effort.

Dr. HÉRARD said that it was Dr. Henri Gintrac of Bordeaux who first had the idea of uniting in a congress workers from all parts of the world so that they might together attempt to solve the grave problems of hygiene, pathology, and therapeutics that were troubling the world of science. The first congress of this description at which the speaker's age enabled him to take part was held at Paris during the Universal Exhibition of 1867. Professor Bouillaud presided and was assisted by Dr. Jaccoud, who to-day was the permanent secretary of the Academy of Medicine. Among the distinguished foreigners who sat on the platform of that congress were Professor Virchow of Berlin, Dr. de Méric of London, Dr. Pallasciano of Naples, Dr. Crocq of Brussels, Dr. Lebert of Breslau, and others. The very first sittings were devoted to the anatomy and the pathological physiology of the tubercle. Villemin opened the discussion and he had just discovered that the tubercle could be inoculated and transmitted. The time, however, had not yet come for the acceptance of this new discovery. Doubts continued to be expressed for 17 years till at last, on March 24th, 1882, the great bacteriologist of Berlin, whose

presence at the present Congress was most welcome, discovered the microbe that bore his name. From that day the struggle against tuberculosis had followed a definite, clearly traced road. Then in France Professor Verneuil, aided by the distinguished veterinary surgeon Blutel, organised a congress in 1891, over which M. Chauveau presided. It was a successful gathering and was followed by the creation of various institutions, such as those of Villepinte, d'Ormesson, Arcachon, Banyuls-sur-Mer, and the French League against tuberculosis, which had done so much to educate the general public in these matters. In 1893 and 1898 two more international congresses were held in Paris, presided over by Verneuil and Nocard, and then important sanatoriums came into existence at Angicourt, Giens, Hauteville, Bligny, together with numerous dispensaries of the type established by Professor Calmette at Lille. Germany impressed by cures due to hygiene and diet obtained by Hermann Brehmer and yielding to the active propaganda made by his pupil, Dr. Detweiller of Falkenstein, established a central committee and was able to announce at the Berlin Congress of 1899 that there were then 60 sanatoriums for tuberculosis in Germany. The great and definitive success of this movement was due to the participation of the management of the funds under the compulsory insurance laws. England, on its side, proceeded in a different manner. While installing special hospitals such as those of Brompton, Torquay, Bournemouth, Ventnor, &c., greater efforts were made to deal with the cause of tuberculosis, more especially the unhealthy dwellings of the poor. Laws which the speaker described as of "excessive severity" were accepted without a murmur by the country and many rookeries were swept away. At the London Congress the advantages of this method were fully demonstrated. Then also it was that the celebrated debate took place between Nocard and Koch in regard to the danger of food infected with the bacilli of tuberculosis. There was also a congress at Naples which did good propaganda work and last year there was an International Conference on Tuberculosis at Copenhagen. The speaker went on to lament that in spite of all these efforts the death-rate from tuberculosis had not decreased except in England and a few favoured countries. It had been found that in attacking the bacilli effectively there was great danger of also destroying the tissue which supports the bacilli. Then it was discovered that many persons carried the bacilli and yet only a small proportion of them suffered from tuberculosis. After this it became clear that the microbe, like seed, required a suitable culture ground. Therefore it became necessary to ascertain what constituted this culture ground. The speaker insisted that every form of overwork, of overcrowding, of insanitary dwellings, and, above all, alcoholism, constituted the culture ground for the development of the tubercle bacilli. It would be the business of the Congress to educate the public on all these points, for without the intelligent support of the masses nothing very effective would be accomplished.

As a rest after this lengthy address the band played a selection and then commenced the long series of orations from the delegates of the various nationalities. They came in alphabetical order of the countries and therefore Surgeon-General Dr. SCHJERNING rose to address the Congress. He said, speaking in German: "By the convocation and brilliant organisation of this International Congress for the struggle against tuberculosis a new leaf of imperishable laurel has been added to the glorious crown that ornaments the brow of the French Republic, a crown which she has won in working for the well-being, the prosperity, and the happiness of the peoples ..... While it is in the natural order of things that in the struggle for existence each should strive after his own advantage and each State, by a sentiment of legitimate self-interest, should endeavour before all things to secure the prosperity of its own people, in this assembly, on the contrary, we only deal with the general good and all have but one and the same aspiration, that of attaining an object which will be of equal benefit to every nation. Such an object is in truth well worthy of our century and epoch." Then the speaker went on to say that it was in France and in consequence of the experiments of Villemin and Laennec that was born the fundamental truth that tuberculosis was contagious. This led to the methods now adopted which in Germany have given excellent results and where to-day there exists 127 sanatoriums that cost in construction and installation £2,700,000. Nevertheless, there have been many disappointments; and thus, while in Germany the death-rate from the other contagious diseases had been reduced within the last 25 years to the extent of 45·4 per cent. the death-rate from tuberculosis had only fallen to the amount of 21·1 per cent. He hoped the Congress would produce new measures against the disease and pledged the German nation to take an active part in the struggle.

Dr. VON SCHROETTER, who spoke for Austria, thought that very rapid progress had been made, for all nations had taken part in the work. No one could have believed that such numerous and practical results would have so promptly followed theoretical discoveries.

M. BÉCO, Minister of Agriculture, spoke for Belgium. M. ZOLOTOVITZ, one of the former pupils and collaborators of Professor Cornil spoke for Bulgaria, and was followed by Professor TRAP for Denmark, Dr. ESPINA Y CAPOR for Spain, and Surgeon Dr. BEYER for the United States. The latter described some of the efforts made in his country to follow the example given in Europe and notably by the French medical profession. Numerous sanatoriums had been constructed; they had national and local associations to cope with this disease. He hoped that the International Congress would meet at an early date in the United States. Then followed Hungarian, Italian, Russian, Swedish, Roumanian, Dutch, Swiss, and finally a Chinese representative. Fortunately, most of these speakers contented themselves with reading out a very short declaration of sympathy and expressed their thanks for the cordial reception given.

The Secretary General of the Congress, Dr. MAURICE LETULLE then read out a lengthy description of the way in which the Congress had been organised so as to bring together, and from all countries, the forces which contributed to the war against tuberculosis. For the purposes of organisation France had been divided into 27 local committees which corresponded with the centres of medical education, and to this endeavour on the part of the French 33 other nationalities had responded and were now ready to participate in the work of the Congress. The Government of the French Republic had made a grant to the Congress of £4000. This had facilitated the work of propaganda throughout the world and publications or other communications in regard to tuberculosis had been sent to more than 600,000 persons in different parts of the world. The present congress was now composed of 3500 members and associates and there were 1500 exhibitors. This exhibition would remain open till the end of the month and the public would be admitted gratuitously; thus the lessons conveyed would be spread as widely as possible. 40 reports had been drawn up and published by selected reporters in answer to the 20 questions put before the Congress. Then 600 communications or papers had been received from individual members of the Congress. He hoped that both the scientific and the political press would help to make known these many and vast endeavours to combat the disease and would show how all the world was united in this noble purpose.

Now all the formalities had been accomplished and all the business part of the Congress concluded. It was only necessary that we should receive the presidential benediction so as to be quite ready to set to work on the morrow. This M. LOUBET gave in no measured terms. He spoke extemporally, enthusiastically, and well, and it was, indeed, a pleasure to listen to such an orator. How easily his speech flowed, with what pleasant bonhomie each compliment was turned, and how simple, natural, and yet profound his words seemed. "Of all the duties which I have to discharge there is none more sweet than that I accomplish to-day," were the opening words which the President uttered. "I will first thank the Sovereigns and the Chiefs of the States," he continued, "the Governments and large societies which have so readily responded to the appeal addressed to them by the French nation." "This gathering," he went on to say, shows how much the great nations are solicitous for all that concerns the public health and the relief of suffering. These are questions that now hold the first rank. For 13 years I have been striving to bring about this Congress whose object has been so well defined by the speakers you have heard to-day. It was in 1892. I was then President of the Council and Minister of the Interior. It needs but slight experience of such State functions to realise that the first duty is to watch over the health of our fellow citizens. During that year the cholera was causing disasters at Havre which we have not forgotten. Then, also, the plague and yellow fever were knocking at our doors. The Government sent two delegates to the Venice Conference which had gathered together so as to dispel

these dangers: Professor Brouardel, whom I have the pleasure of finding at my side ever active in a good cause, and Professor Proust whom, alas, we have lost. It was a first step on the road to an agreement between nations so that they might deal conjointly with such questions. You, gentlemen, men of science and doctors, you seek out the causes and origin of the evil, the best means of prevention and cure; we, Governments, and economists as you call us, we endeavour to realise your discoveries and your projects conceived in the interests of humanity. Four years ago you met in solemn conference at London. After discussing with our much-regretted Waldeck-Rousseau, who agreed with me in this matter, I sent a despatch to one of the representatives of French science, Dr. Brouardel, and I begged him to offer the hospitality of France for the holding of the next international congress. My thought, my desire, was to see you meet not only to exchange scientific communications but to engage in a work of social economy, of human benevolence, that would draw closer to each other all civilised peoples. My hope was that out of this Congress would emerge great and noble things. I therefore address to all the members of the Congress here present my thanks and I salute them in the name of France. Your beloved and venerated President seemed a few moments ago to make some pessimistic reservations. I do not share his anxiety. I have faith in you. What you have already done is the earnest of what you are about to accomplish. Doubtless I have heard it said that if surgery, thanks to Pasteur, had made real progress, medicine was very much behindhand. Indeed, has it not been said that medicine had gone bankrupt over the treatment of tuberculosis? No; she is not a failure; that science which by the mouth of the illustrious Villemin proclaimed that tuberculosis was not hereditary. Medicine has rendered immense service in making known to humanity that tuberculosis can be avoided by sterilising the expectorations, by preventing dust, by rendering wholesome the dwellings, by isolating the sick, and by propagating a knowledge of personal and social hygiene. We are convinced that by persevering in such efforts we shall soon see the death-rate fall, as it has done in England. But for this we must now more than ever obtain on these questions, which are so worthy of our solicitude, a complete agreement between the Governments and the peoples. The sentiment of the solidarity of peoples had been already admirably expressed by the gathering together of official conferences to assimilate in all countries the measures taken to prevent the spread of epidemics from one country to the other."

In conclusion M. Loubet congratulated the President of the Congress, Professor Hérard, who though he had reached yesterday his eighty-sixth year was as active as ever and he hoped they should preserve him to preside over yet another congress. M. Loubet further expressed the hope that the members of the Congress who had come to Paris with the desire to work for the greater good of humanity would find also such relaxations and pleasure as would enable them to take away with them a pleasant souvenir of that city and of France.

Needless to say that this speech was greeted with cordial applause. M. Loubet, followed by the gentlemen who were on the platform, then proceeded to inaugurate the exhibition which was situated in the adjacent rooms.

After the opening of the Congress a large number of the members were invited to a concert given by the proprietors of the *Figaro*, where a very excellent entertainment was provided. But the room was too small for the crowd that attended. Music and singing were provided by ladies and gentlemen from the leading theatres of Paris, including Mdlle. J. Margyl of the Opera and Mdlle. Cecile Sorel of the Comédie Française.

THE SECTIONS.

OCT. 3RD.

In the First Section an interesting discussion was held upon the

Relations between Human and Animal Tuberculosis,

in which Dr. BEHRING, Dr. KOSSEL, Dr. LYDIA RABINOWITSCH, and Dr. ARLOING, as well as several prominent British representives, took part. The majority of the Congress were clearly in favour of regarding bovine tuberculosis as vastly important and constituting a real danger to the human race, especially to children who depend so much on the milk of cattle. The following motion was carried:—

The Congress, after hearing the *exposé* of the most recent investigations, declares that it is not only indispensable to avoid contagion from man to man, but also to pursue the prophylaxis of bovine tuberculosis and to continue to take administrative and hygienic measures to avert its possible transmission to our species; and finally, that it is desirable to be on our guard against all forms of animal tuberculosis.

The Second Section (Surgical Pathology) was occupied with an instructive discussion on

The Comparative Study of the Various Forms of Tuberculosis.

The first communication was by Dr. S. ARLOING of Lyons. He pointed out that hitherto the majority of the observers who had investigated tuberculosis as seen respectively in man, mammals, birds, and cold-blooded animals had confined their attention to the differences existing between the bacilli found in the various species of living creatures as regards their morphology, growth, and pathogenic action. But if a different plan was adopted and the manner in which the bacilli resembled one another was noted, and if also the various facts observed by different investigators were compared then the conviction was arrived at that all the bacilli connected with tuberculosis seen in various animals and birds were only varieties of one and the same species and that they were not separated by any well-marked differences. Dr. Arloing pointed out that certain slight variations were known to exist in tubercle bacilli as found in human beings as well as between those which were found in animals. He referred to surgical tuberculosis and drew attention to the various lesions which presented themselves. He attributed the differences to qualitative modification of the virus. He further said that so far as his investigations had proceeded he recognised two degrees of virulence of tuberculosis, the more feeble of the two producing lesions of localised "scrofulous tuberculosis" (*scrofulo-tuberculeuses localisées*). He then went on to speak of cutaneous tuberculous conditions and of lupus. With regard to the latter, he remarked that the virus of "tuberculous lupus" was generally more feeble than that of scrofulo-tuberculosis when the latter affected the lymphatic glands. But occasionally both might exhibit a great increase in virulence equalling that of the virus of pulmonary tuberculosis. Dr. Arloing then proceeded to make a comparison between human tuberculosis and that of animals, and arrived at the conclusion that human and bovine tuberculosis were of the same nature and were inter-transmissible. Reviewing the whole results of his investigations he maintained that the types of tuberculosis described by some bacteriologists were in reality only varieties of the disease. These varieties were produced by an exaggeration of the varying phenomena and pathological changes which the bacillus could produce in the same species of animal. He also made the interesting statement that all the varieties of the tubercle bacilli which had been described might be agglutinated in various degrees by the serum of tuberculous patients. All the varieties were more or less likely to produce tuberculin in cultures and agglutinating substances in the blood of a living organism. Dr. Arloing was further convinced that in regard to public health all forms of animal tuberculosis must be regarded as dangerous. He admitted, however, that among human species the most frequent mode of transmission was from man to man.

Another paper was by Dr. H. KOSSEL of Giessen. After a careful review of the results obtained by others and from his own observations he believed that two distinct types of tubercle bacilli could be distinguished, which it was convenient to designate temporarily as the human type and the bovine type respectively. Tuberculosis, which was found so widely amongst cattle, was caused by the bacilli of the bovine type. Swine were more easily affected by the bovine type but they also responded to the human type. Human tuberculosis was mainly caused by infection of the organism with bacilli of the human type and this form was transmissible from man to man. Tuberculous lesions could, however, be produced in man by bacilli of the bovine type. Dr. Kossel was of the opinion that tuberculosis could be transmitted to man by the flesh or milk of tuberculous animals but he contended that the chance of this mode of contracting the disease was very uncommon compared with the danger that existed in connexion with tuberculous patients when sufficient precautions were not taken in regard to disinfection.

Dr. M. P. RAVENEL made a communication on the same subject. He referred to the announcement by Professor Koch at the International Congress on Tuberculosis held in London that human and bovine tuberculosis were different diseases. Not knowing that the matter was engaging the attention of Professor Koch Dr. Ravenel had been conducting an extensive study of the comparative virulence of

the tubercle bacillus from human and bovine sources and he found that there were certain fairly constant differences in the cultural, morphological, and tinctorial characters of tubercle bacilli from human and bovine sources. More striking, however, was the difference in virulence, cultures from bovine sources showing a vastly greater pathogenic power for all experimental purposes except in the case of guinea-pigs and swine, which proved so susceptible to both races of bacilli that little distinction could be detected. He detailed a series of elaborate investigations which he had made in an attempt further to elucidate these matters and concluded by formulating certain conclusions which in the light of their present knowledge he believed to be justified. They were as follows:—1. The division of mammalian tubercle bacilli into two types, human and bovine, had been amply confirmed. These types had cultural, morphological, and tinctorial characteristics by which they might usually be recognised. The chief point of difference, however, was found in the very much greater pathogenic power of the human type. Human bacilli were, however, met with which had low pathogenic power. 2. No other species of mammal had been shown to harbour a variety of tubercle bacillus so constant in its characteristics as to justify its classification as a third type. 3. Other species suffering from tuberculosis derived their infection from man or from cattle. 4. The human tubercle bacillus, as a rule, had a low pathogenic power for cattle but cultures were not infrequently found which were virulent for the bovine race. 5. The bovine tubercle bacillus had the power of invading the human body and of producing the lesions of tuberculosis. 6. They were at present unable to state the exact proportion of cases in which bovine tuberculosis was transmitted to man but in view of the evidence at hand they must regard the disease in cattle as the source of a certain part of human tuberculosis and any relaxation in their laws and precautions against bovine tuberculosis would be most unwise.

The Protection of Children belonging to Tuberculous Families.

The first paper on this subject was read in the Third Section by Dr. A. B. MARFAN of Paris. He pointed out that the ages most dangerous to children were between one and six years of age. During the first three months of a child's life the risk of contracting tuberculosis was practically *nil*, subsequently the danger gradually increased. The increase of danger mounted slowly from three months to one year, was more rapid between one and two years of age, and a first maximum was attained from two to four years. After four years the mortality from tuberculosis diminished. It was very small from six to 12 years of age, increased again as puberty appeared, but it was from 18 to 35 years of age that susceptibility to infection was at its height. During the younger years of life the source of contagion was probably to be found in the patient's immediate family, although, of course, the disease might be contracted from outside infection or through the milk of a tuberculous animal. Dr. Marfan from these facts contended that protection of children might be placed in two categories, those children who actually lived with people suffering from active pulmonary tuberculosis and those children who were otherwise placed. Precautionary measures were necessarily more severe in the former class than in the latter. The prophylactic measures to be adopted if the child lived in the same home with a tuberculous person were the same as those generally adopted for the prevention of the disease—namely, that the child should see as little of the patient as possible, and especially should not occupy the same bed. A proper spittoon containing a disinfectant should be employed and thorough disinfection of all soiled linen and of table and toilet utensils should be carefully enforced, and, finally, wherever practicable, sweeping and dusting in the rooms should be replaced by wiping the floor and furniture with a damp cloth. In the case of a child with a family history of tubercle but who did not live with a tuberculous person less stringent measures would suffice. All milk must be thoroughly boiled. The child should be prevented as far as possible from playing in public places which consumptives were accustomed to frequent. His hands and nails should be thoroughly and repeatedly cleansed, especially after returning from a walk. He should not be allowed to occupy any home or room in which a consumptive individual had previously resided. Dr. Marfan further urged that these precautions should be applied more particularly to children convalescing from measles or whooping-cough and to those who were the subject of enlarged bronchial or cervical glands. Special care was also needed at the time of puberty. The child should then live as far as could be arranged in the open air, over-work must be avoided, the appetite encouraged, and physical exercises energetically practised. These precautions were necessarily more difficult to carry out amongst the children of the labouring classes. Much work was now being done in France with a development of the seaside and mountain sanatoriums.

Dr. HEUBNER of Berlin next read a paper on the same subject, illustrating his remarks by relating certain instances which had come under his own observation. He referred to the very difficult subject of the marriage of the offspring of tuberculous patients and urged that a medical practitioner ought not to give his authority to unions of this kind except in well-determined circumstances. Dr. Heubner also insisted on the importance of educating nurses and midwives as to the protective measures which should be adopted in regard to children born of a tuberculous mother. He very rightly laid stress on the necessity for legislative measures which should be adopted by local or general authorities in any State for the prevention of tuberculosis. He likewise maintained that parents should make themselves acquainted with the hygienic surroundings of the schools in which their children were educated.

On Oct. 4th much the same discussion was continued under the heading of

The Prevention of Tuberculosis in Schools.

Dr. H. MÉRY of Paris was the first speaker. He pointed out that one of the chief dangers arose from the fact that pulmonary tuberculosis in children frequently remained undetected and therefore that the general precautions against tuberculosis should be rigorously enforced in all schools.

Professor F. GANGHOFNER of Prague also read an instructive communication on the same subject. He very properly drew attention to the importance of distinguishing between "the seed and the soil." And in the case of children it was to the latter that especial attention should be paid. Every effort should be made to improve the general health of the children by rendering pure the air of the class-rooms by adequate ventilation, cleanliness, and prevention of overcrowding. He also laid stress on the frequency of latent tuberculosis in children. He produced some interesting statistics to prove this point and the ages at which this condition most commonly occurred. Amongst 460 children under one year of age there was latent tuberculosis in 33 instances = 7·1 per cent. Amongst 536 children between one and two years of age there were 86 instances = 16 per cent. Amongst 476 children between two and seven years of age there were 117 instances = 24·5 per cent. Amongst 271 children between four and six years of age there were 73 instances = 26·9 per cent. And amongst 123 children between six and eight years of age there were 33 instances = 26·8 per cent.

The Value of the Sanatorium Treatment.

Dr. ARTHUR NEWSHOLME, medical officer of health of Brighton, was especially selected to send to the Fourth Section of the Congress a statistical report which is intended to show the beneficent effects resulting to the general population from the treatment of tuberculous patients in general institutions instead of leaving them to die at home. It must be confessed that the great mass of figures brought forward are somewhat confusing and at times contradictory. Nevertheless, they are undoubtedly very hopeful. Thus, for instance, in the first sentences we are reminded that the death-rate from pulmonary tuberculosis had declined from 256 per 100,000 of the population, the average for the five years 1861–65, to 123 in the year 1903, and this is equal to a reduction of 52 per cent. in 38 years. In Scotland during the same period the reduction was equal to 42 per cent. and in Massachusetts to 56 per cent. In regard to the latter figure it must be observed that the mortality was, and still remains, much higher than in either England or Scotland. It was 365 and has fallen to 167 per 100,000 of the Massachusetts population. Dr. Newsholme does not carry his figures further back because confusion existed between pulmonary tuberculosis and other diseases of the respiratory organs. Then we find ingenious comparisons between the average retail price of food and the death-rate from pulmonary tuberculosis. Thus if in 1901 food cost 100 and the death from this disease amounted to 100, from 1877 to 1880 food cost 135 and

the deaths amounted to 166. From this it would seem evident that as food became cheaper the frequency of tuberculosis decreased. But this is not so. During the three periods formed by dividing the years from 1886 to 1900 the average cost of food was 102, 98, and 94, and the deaths 134, 119, and 106; and when finally in 1901 the cost of food rose again to 100 the deaths continued to decline and reached the model figure of 100. But food alone does not suffice, for if food is cheaper and clothes or rents are dearer the practical effect is the same. Taking, however, not food alone but the general cost of living, the figures are for the last four periods of five years during the last century 116, 101, 99, 96, and 100 for cost of living in England and the death-rate for pulmonary tuberculosis was 147, 134, 119, 108, and 100. So here, again, though there seems to be a correspondence, it is not absolute. The German figures are similar. Applying the model figure of 100 to the year 1901, the average cost of living during five periods dating from 1877 to 1900 was 112, 105, 99, 103, 99, and of course 100 in 1901. Then the average death-rates from tuberculosis in Prussia during these same periods were as 163, 162, 150, 128, 108 to 100 in 1901. It will be seen that the proportionate reduction of the prevalence of the disease has been much greater than in the cost of living and that whereas the cost of living fluctuated the reduction in the prevalence of tuberculosis continued steadily. Indeed, Dr. Newsholme says: "Between the individual years 1877 and 1886, when the death-rate in Prussia from tuberculosis was stationary, the total cost of living fell from 115 to 95; and in the years 1886–90 of equally cheap food as in 1901 the death-rate from tuberculosis was 50 per cent. higher." Also, it seems proved that the great decline in the death-rate from tuberculosis in Germany occurred before the recent and considerable improvement in wages.

Comparisons with the returns of pauperism under the Poor-law are less trustworthy because the methods of granting relief vary considerably from time to time and from place to place. However, we are told that from 1861 to 1903 pauperism has declined in England and Wales 54 per cent. and pulmonary tuberculosis 52 per cent. In London pauperism fell 34 per cent. and pulmonary tuberculosis 41 per cent. In Scotland the figures are 52 per cent. reduction in pauperism and 43 in pulmonary tuberculosis. In Ireland, on the contrary, pauperism has increased 119 per cent. and pulmonary tuberculosis 21 per cent. Dr. Newsholme maintains that "in each country in which institutional has replaced domestic relief of destitution there has been a reduction of the death-rate from phthisis which is roughly proportional to the change."

Thus in England and Wales whereas the deaths from pulmonary tuberculosis in institutions were as 14 in 1861–65, they were as 31 in 1901–03. The theory is that the more persons suffering from the advanced stages of pulmonary tuberculosis are removed from the midst of the general population the less the disease will spread. This does not mean that England has been saved by special hospitals for consumption as there are not many such institutions. In the London hospitals specially devoted to the treatment of lung diseases there are only 655 beds. In the provinces these establishments have but 414, in Scotland 41, and in Ireland 64 beds. As in the United Kingdom there were 56,643 deaths from pulmonary tuberculosis in 1902, this small number of beds could produce no appreciable effect. It is not the hospitals but the workhouse infirmaries that have been the means of separating tuberculous patients from the rest of the population and thus preventing the spread of the disease. In Dr. Newsholme's own district the number of tuberculous patients treated in the Brighton workhouse infirmary, as indicated by the number of deaths, has increased from 9·6 per cent. in 1861–70 to 20·2 per cent. in 1901–04. Other figures are given to show that there is a large increase in the number of deaths taking place in hospitals, workhouse infirmaries, and asylums. As the number of persons who die at home consequently decreases the spread of tuberculosis also decreases.

There are, however, other and very important factors. Thus at Salisbury and at Ely the death-rates per 100,000 of the population from tuberculosis were 443 and 227 respectively before the introduction of sewers—namely, from 1844 to 1852; but after these works were completed—namely, from 1859 to 1865—the proportions were 310 and 167 respectively, or a reduction equal to 49 per cent. at Salisbury and 46 per cent. at Ely. It is true that at Ely the deaths from consumption in the first period were 1·6 and in the second period 2·7 per cent., but in both cases the figure is so small that it cannot be compared with the really startling result that followed on the adoption of a proper drainage scheme. Dr. Newsholme does not raise the question of sanatoriums; he even infers a doubt as to whether they are worth the cost which they entail, but he renders service by emphasising the importance of isolating from the population cases that have reached the more advanced stages. This, by the way, is the very thing sanatoriums endeavour not to do. The cry always is for curable cases to be sent at the earliest stage. Obviously there arises from all this a double demand. To prevent the spread of the disease those who are in the advanced stage should be segregated. To cure the disease the patient at the very earliest symptom should be sent to a sanatorium. Dr. Newsholme, however, only deals with the first of these two phases of the problem.

AN EXHIBITION OF MEDICAL PREPARATIONS AND APPLIANCES.

AN exhibition opened this week in the Royal Horticultural Hall, Vincent-square, under the auspices of the *British and Colonial Druggist*, presents several points of medical interest. The exhibition takes the place of the Chemists' Exhibition, which has been held for the past 11 years in Queen's Hall, and the general arrangements made were good, considering that the enterprise was a new one. It was found, however, that the times of opening and closing—viz., 2 P.M. and 10 P.M. respectively—did not appear to be altogether suitable, the attendance in the evenings being decidedly sparse. Therefore the suggestion has been made, and will probably be carried out, that next year the exhibition, which will be held in the first week in October and in the same place, will open at 11 A.M. and close at 6 P.M.

The exhibitors, who numbered 94, comprised some of the best known manufacturers of medical preparations in London, the provinces, and abroad, although the names of the absentees are at least as important as those of the exhibitors. Possibly another year more general support will be given to the exhibition, which must not be judged too strictly on the inaugural occasion. Messrs. Duncan, Flockhart, and Co. (Edinburgh and London) exhibited samples of their well-known and carefully tested anæsthetics among other therapeutical preparations. The special feature of the exhibit was the ethyl chloride manufactured by this firm with their graduated glass cylinder and "simplex inhaler" for using it. The graduated glass cylinder appeared to deserve the claims made for it, that it would insure accuracy of dosage and ease of administration. The simplex inhaler for ethyl chloride was suggested by Dr. T. D. Luke of Edinburgh and was fully described by him in THE LANCET of July 18th, 1903, p. 168. It can be at once adapted to the ether chamber of a Clover's inhaler and the ethyl-chloride-ether sequence can be used. The Angier Chemical Co., Limited (London), showed a selection of new throat tablets that we can understand might prove serviceable as well as specimens of their petroleum with hypophosphites preparation, known as Angier's Emulsion. Messrs. Newbery and Sons, Limited (London), had a long list of medical preparations, among others being the effervescing bromo soda. Messrs. Burgoyne, Burbidges, and Co. (London), who are the agents of the Chemische Fabrik von Heyden of Dresden, exhibited Heyden's Calodal—a preparation derived from the albumin of meat. Heyden's calomelol, a substitute for calomel of value in the medicinal treatment of syphilis; and Heyden's collargol, which is being used in the form of tablets and as an ointment in the treatment of various septic conditions and in obstetric practice. Other exhibits of special interest by this firm were chlorobrom, the value of which in certain forms of seasickness is widely vouched for; Zotal, a disinfecting fluid; a new waterproof sheeting remarkably free from the odour of indiarubber, to which the name of Lozal is given; and hot-water bags and ice-bags made from Japanese paper which are stated to be impervious to hot and cold water and which are certainly remarkably cheap. Messrs. Thomas Christy and Co. (London) have a good show. Among the many exhibits of this firm was a lamp which combines tongue depressor and mirror and will go easily into the

pocket; the batteries are strong enough for 500 examinations and can be renewed at small cost when exhausted. This firm also showed samples of dioxogen, a chemically pure solution of peroxide of hydrogen. Messrs. Ingram and Royle (London, Liverpool, and Bristol) had a large exhibit of the various natural mineral waters for which they are agents. Of these the Carlsbad waters are perhaps the best known, while the Vittel waters are the latest to be introduced to the British public. The Vittel waters, which are milder in action than the Carlsbad, are prescribed in cases of gout, diabetes, and congestive states of the biliary and urinary passages. Messrs. Southall Bros. and Barclay (London, Birmingham, and Balstadt and Kabelvaag, Norway) showed several forms of their well-known sanitary towels, including some made of silk and named towels "de luxe." Specimens were also shown of all the antiseptic agents used in the production of Southall's sanitary specialities and obstetrical and surgical dressings. The most novel feature of the display was Lofotol, a preparation from cod-liver oil manufactured in the Lofoten Islands, where Messrs. Southall and Barclay have a factory. The preparation is described as a saturated solution of pure carbonic acid gas in cod-liver oil and is declared to combine the remedial value of both these substances. A full reference to Lofotol will be found in THE LANCET of Dec. 20th, 1902, p. 1703. The Aylesbury Dairy Co., Limited (London), exhibited humanoid and pollyta as its two most recent preparations of milk. Humanoid is described as a concentrated preparation which on dilution resembles mother's milk, over which the chemists of the company seem to think it even possesses some advantages. In the preparation of humanoid every attempt seems to have been made to supply the requisites of a satisfactory substitute, to suggest that it is better than the original is not a thoughtful claim. Pollyta is a solid milk food for infants after weaning. Jeyes' Sanitary Compounds Co., Limited (London), exhibited various preparations of cyllin, a substance with the merits of which our readers are familiar from communications in our columns. Messrs. Armour and Co. (London and Chicago), exhibited a very interesting preparation, essence of pepsin, each drachm of which contains one grain of the standard pepsin of the firm, and glycerine extract of red bone marrow which is described as a permanent medullary glyceride, of definite strength, and of great value in cases of anæmia, chlorosis, neurasthenia, and the many diseases associated with secondary anæmia. Suprarenalin in the form of powder, solution, triturates, and ointment was also a feature of this exhibit, as was soluble beef, a preparation of which a favourable report has already appeared in our analytical records. Messrs. Arthur H. Cox and Co. (Brighton) had a large display of their specialities in pills and tablets, including tablets for making antiseptic solutions, douches, and gargles. Attention was drawn to the fact that the Blaud's pills of this firm contain 20 per cent. of ferrous carbonate and are guaranteed to remain effective for two years. Messrs S. Maw, Son, and Sons (London) were alone in the exhibition among the manufacturers of surgical instruments, appliances, and aseptic furniture. Among the novelties they showed were an electric lamp for eye, ear, and throat work which can be used as a hand or bracket lamp; an ethyl chloride inhaler with a non-collapsible bag, by means of which ethyl chloride can be sprayed directly on to the bag; Mr. Herring's apparatus for sterilising elastic gum catheters; a set of instruments for general surgery, containing steriliser, &c., suitable for expeditions; aseptic midwifery wallets, tin and copper; and sterilised dressings in germ-proof packets. Bovril, Limited (London), made a good display of the concentrated foods for which the firm is so well known. Mr. William Martindale (London) had a large and comprehensive exhibit, the most notable features of which were hypodermic sterules and various moss preparations—loose moss, moss sheets, and moss felt. The Protene Co. (London) had a good display of various milk proteid preparations, including protene diabetic specialities. Messrs. Keen, Robinson, and Co., Limited (London), showed patent barley, patent groats, and Colman's sinapisms. Messrs. Callard and Co. (London) exhibited specimens of their numerous well-known starchless foods. Messrs. Baiss Bros. and Stevenson, Limited (London), among other therapeutical preparations, exhibited Hopkinson's liquor colchicinæ salicylatis which is said to have been found valuable in gouty and rheumatic conditions. The Anglo-American Pharmaceutical Co. (London, Paris, and New York), exhibited Huxley's syrup of acid glycero-phosphates, containing four grains of the combined glycero-phosphates in the drachm, with $\frac{1}{15}$th grain of strychnine, and Huxley's syrup of acid glycero-phosphates with formates. Messrs. Oppel and Co. (Freidrichshall and London), had an exhibit of the well-known Freidrichshall waters. Foods, Limited (Stockport), exhibited specimens of the foods manufactured by them, known by the name of Moseleys Foods. Messrs. F. Davidson and Co. (London), manufacturing opticians, exhibited among other eye, ear, throat, and nose appliances a model larynx and electric ear made by Dr. D. Grant, a near point muscle test, a fog test for astigmatism, a direct ophthalmic illuminator, and an ophthalmic testing cabinet. Messrs. Fairchild Bros. and Foster (New York and London) exhibited lecithin-Fairchild ($C_4H_{90}NPO_9$), a pure isolated lecithin in solution, pepule digestive tablets, and peptogenic milk powder. Messrs. George Jennings, Limited (London), exhibited two novelties, the "Acme" automatic disinfectant cylinder, an ingenious invention which provides a simple and convenient method of using disinfectants, and a patent reversible commode and bidet, which did not strike us as very unlike what is provided in many French hotels. International Plasmon, Limited (London), had an excellent display of their well-known foods; the same may be said of the Mauhu Food Co. (Liverpool); and Horlick's Malted Milk Co. (London) showed as a special feature the malted milk made in the form of lunch tablets. Messrs. Cadbury Bros. (London) had an excellent exhibit of their well-known wares and the Brins Oxygen Co. (London) exhibited some of the machinery by which the Brin process of producing oxygen is worked. Messrs. Parke, Davis, and Co. (New York and London) had an attractive and comprehensive display, out of which we can only pick a few items for notice. Among the biological products thyroidectin may be mentioned. The typhoid agglutometer for making the Widal test for typhoid fever would appear from a necessarily brief observation to be a simple contrivance for making this test. A surgical and medical case designed particularly for use on board yachts and named the "yachtmobile" may be mentioned, while a cycle emergency case was a handy contrivance, of course, upon much more modest lines. Mr. G. H. Zeal (London), wholesale manufacturer of clinical thermometers, had a large exhibit of his specialities.

A collection of recently published medical works was on exhibition, among the firms sending specimens being the Clarendon Press (London and Oxford), Messrs. Appleton and Co. (New York and London), and Messrs. Saunders and Co. (Philadelphia and London).

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7651 births and 4182 deaths were registered during the week ending Sept. 30th. The annual rate of mortality in these towns, which had been 16·1, 14·3, and 13·8 per 1000 in the three preceding weeks, rose again to 14·0 per 1000 last week. In London the death-rate was 13·9 per 1000, while it averaged 14·0 per 1000 in the 75 other large towns. Among these large towns the death-rates ranged from 6·3 in Bournemouth, 6·7 in Wallasey, 7·5 in King's Norton, 7·6 in Coventry, 7·7 in West Bromwich, 8·2 in York, 9·0 in Burton-on-Trent, and 9·1 in Leyton, in Southampton, and in South Shields, to 18·4 in Plymouth, 18·9 in Swansea, 19·2 in St. Helens, 20·1 in Middlesbrough, 20·2 in Walsall, 20·8 in Bootle, 21·0 in Wolverhampton, and 25·3 in Tynemouth. The 4182 deaths in these towns last week included 588 which were referred to the principal infectious diseases, against 1091, 820, and 655 in the three preceding weeks; of these 588 deaths, 367 resulted from diarrhœa, 61 from whooping-cough, 48 from scarlet fever, 46 from diphtheria, 36 from "fever" (principally enteric), and 30 from measles, but not any from small-pox. No death from any of these diseases was registered last week in Hornsey, Hastings, Northampton, Great Yarmouth, Devonport, West Bromwich, King's Norton, Stockport, Wallasey, Rochdale, South Shields, or Newport (Mon.); among the other towns the highest death-rates from the principal infectious diseases were recorded in West Ham, Wolverhampton, Wigan, Warrington, Burnley, Preston, Middlesbrough, and Swansea. The greatest proportional mortality from measles

occurred in Swansea; from scarlet fever in Bootle; from whooping-cough in West Hartlepool; and from diarrhœa in Willesden, West Ham, Walsall, Warrington, Burnley, Middlesbrough, and Sunderland. The mortality from diphtheria showed no marked excess in any of the large towns. No death from small-pox was registered last week in any of these towns and no small-pox patients remained under treatment at the end of last week. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 2982, 3150, and 3424 on the three preceding Saturdays, had further risen to 3591 on Saturday last, Sept. 30th; 509 new cases were admitted during the week, against 443, 469, and 546 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 133, 113, and 130 in the three preceding weeks, further rose to 155 last week, but were 12 below the number in the corresponding period of last year. The causes of 37, or 0·9 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Leicester, Nottingham, Leeds, and in 49 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Manchester, Sheffield, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 14·0, 15·0, and 13·5 per 1000 in the three preceding weeks, rose again to 14·5 per 1000 during the week ending Sept. 30th, and was 0·5 per 1000 above the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 9·1 in Perth and 10·4 in Paisley to 16·5 in Glasgow and 17·8 in Greenock. The 487 deaths in these towns included 36 which were referred to diarrhœa, seven to measles, six to diphtheria, four to whooping-cough, two to scarlet fever, and one to "fever." In all 56 deaths resulted from these principal infectious diseases last week, against 69, 71, and 59 in the three preceding weeks. These 56 deaths were equal to an annual rate of 1·7 per 1000, which was 0·3 per 1000 below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 41, 32, and 38 in the three preceding weeks, declined again last week to 36, of which 21 occurred in Glasgow, seven in Dundee, three in Paisley, and two in Edinburgh. The deaths from measles, which had been seven, three, and two in the three preceding weeks, rose again to seven last week, and included five in Glasgow. The fatal cases of diphtheria, which had been four, 11, and three in the three preceding weeks, rose last week to six, of which three occurred in Glasgow and two in Edinburgh. The deaths from whooping-cough, which had been ten and eight in the two preceding weeks, further declined last week to four, of which two were registered in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 60, 63, and 58 in the three preceding weeks, rose again to 77 last week, and were slightly in excess of the number in the corresponding period of last year. The causes of 14, or nearly 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 18·4, 16·2, and 17·9 per 1000 in the three preceding weeks, further rose to 22·3 per 1000 during the week ending Sept. 30th. During the 13 weeks of the quarter ending on that date the death-rate averaged 19·6 per 1000, the rate during the same period being 14·6 per 1000 both in London and in Edinburgh. The 162 deaths of persons belonging to Dublin registered during the week under notice were 32 in excess of the number in the preceding week, and included 12 which were referred to the principal infectious diseases, against 17, 12, and 13 in the three preceding weeks; of these, nine resulted from diarrhœa and three from "fever." These 12 deaths were equal to an annual rate of 1·7 per 1000, the death-rates last week from the principal infectious diseases being 1·9 in London and 0·8 in Edinburgh. The fatal cases of diarrhœa, which had been 12, 10, and 10 in the three preceding weeks, further declined last week to nine. The deaths referred to different forms of "fever," which had been four, one, and two in the three preceding weeks, rose to three last week. The 162 deaths in Dublin last week included 30 of children under one year of age and 45 of persons aged 60 years and upwards; the deaths of infants showed a slight decline from the number in the preceding week, while those of elderly persons were considerably in excess. Nine inquest cases and six deaths from violence were registered; and 58, or more than a third, of the deaths occurred in public institutions. The causes of four, or more than 2 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet Surgeon William Henry Patterson has been placed on the Retired List with permission to assume the rank of Deputy Inspector-General of Hospitals and Fleets (dated Sept. 28th, 1905).

The following appointments are notified:—Fleet Surgeons: F. A. Jeans to the *Dædalus*; W. H. Norman to the R.M.A., Eastney; C. W. Sharples to the *Unicorn*; J. Jenkins to the *St. Vincent*; and H. L. Crocker to the *Ganges*, for Shotley Barracks. Staff Surgeon F. D Lumley to the *President*, for study at West London Hospital. Surgeons: L. Lindop to the *Ganges*, for Shotley Barracks; R. H. Atkins to the *Ganges*, for the *Caroline*; A. T. Gailleton to the *Ganges*, for dental duties; and A. F. Mackay to the *Dwarf*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel R. W. Barnes resigns the medical charge of the military prison at Dover. Captain F. A. Stephens joins the Scottish Command for duty. Lieutenant-Colonel T. Archer, retired pay, is appointed to medical charge at Lydd.

Colonel Charles H. Swayne, D.S.O., is placed on retired pay (dated Sept. 18th, 1905). Lieutenant-Colonel Thomas B. Moffitt retires on retired pay (dated Oct. 4th, 1905).

DEATHS IN THE SERVICES.

The body of Colonel E. V. MacSwiney, A.M.S. (retired), late medical officer at the Liverpool recruiting centre, was found on the railway line near Birmingham on Oct. 3rd. Colonel MacSwiney entered the army as assistant surgeon in 1868.

THE REVIEW OF SCOTTISH VOLUNTEER FORCES IN EDINBURGH.

In connexion with the recent review of the Scottish Volunteer Forces at Edinburgh by the King, His Majesty has appointed Major John Scott Riddell, Scottish Command, R.A.M.C. (Volunteers), Aberdeen Companies, a member of the Fourth Class of the Royal Victorian Order.

Correspondence.

"Audi alteram partem."

THE EVOLUTION OF THE PURE CONSULTANT.

To the Editors of THE LANCET.

SIRS,—May I point out what seem to me errors in the historical statements upon which the writer of the article in THE LANCET of Sept. 30th, p. 996, based some of his conclusions? 1. I read: "From time immemorial certain members of the profession have received the majority of their patients in their consulting rooms as opposed to the more common habit of visiting patients in their own homes." I do not know what is meant by "time immemorial" but it is certain that this was not the practice in the eighteenth century. 2. "The popular idea of a consultant is said to be one who has so far got on in practice that he can require his patients to come to him instead of responding to their call, and at the same time is able to charge a higher fee than his fellow practitioners. It appears that this view now commonly held by the public was the only distinction held by the profession itself between general practitioners and consultants until 20 or 30 years

ago." On the contrary, I should say that up to 50 years ago there was a very hard and fast line indeed between the physician who was the consultant and the apothecary or general practitioner. It is true that up to 20 or 30 years ago the pure consultant in the sense of a practitioner who never visits patients at their own homes except in consultation did not exist in this country, but it may be doubted if even at the present time they exist as a class, although certain individuals may limit their practice in the way stated. Some consulting physicians and consulting surgeons of the highest eminence still visit patients at their own houses without the presence of any general practitioner.

With the latter part of the article I cordially agree. The modern consultant takes his standpoint upon his qualifications as a specialist—that is to say, he must possess special knowledge of certain departments of practice or special skill in carrying out particular kinds of treatment. It is idle for a man to claim to be a consultant merely because he has passed certain examinations and holds hospital appointments unless he has made use of the opportunities afforded him by his appointments to acquire special knowledge and skill.

I am, Sirs, yours faithfully,

Birmingham, Oct. 2nd, 1905. ROBERT SAUNDBY.

THE ESSENTIAL CONDITIONS OF STEAM DISINFECTION.

To the Editors of THE LANCET.

SIRS,—The article by Mr. Wolf Defries in THE LANCET of Sept. 30th, p. 981, is undoubtedly a valuable contribution to the literature of this subject but his conclusions are based too exclusively upon theoretical considerations and laboratory experiments without due regard to the results of actual experience. I have always contended, and Mr. Defries acknowledges, that steam acts as a disinfecting agent on account of the enormous amount of "latent heat" which becomes "sensible" when the steam condenses. Watt, who investigated this subject, found that "the whole quantity of heat necessary to raise a given weight of water from zero or any temperature and then to evaporate it entirely is a constant quantity. His experiments showed that this quantity is 640°. Hence, the lower the temperature the greater the latent heat and, on the other hand, the higher the temperature the less the latent heat." It is true that Regnault found that this was not quite correct and from his formula it appears that the total quantity of heat necessary to evaporate water at 100° C. is 637° and at 120° C. 643°. The use of high pressure necessary to evaporate water at 120° C. only therefore increases the sensible heat produced by condensation by 6° C., an amount entirely insignificant in the circumstances. Mr. Defries ignores this fact in his theoretical considerations. Another possibly important fact also escapes his attention—namely, that the temperature at which the steam condenses varies with the conditions under which it is allowed to condense. If the steam is allowed to pass into a vessel containing salt the temperature at which the steam condenses will be that at which a saturated solution of salt boils (109° C.) and will remain at this so long as any of the salt remains undissolved, whatever the pressure under which the steam may have been generated. If the bulb of a thermometer is moistened with such a solution and then immersed in current steam it will be found that the temperature recorded is several degrees above the boiling point of the water. The same applies to all other solutions capable of taking up water.

Mr. Defries acknowledges that all the known disease-producing organisms for which disinfecting apparatus are required are destroyed at a temperature far below 100° C. but he states that the exciting organisms of small-pox and scarlet fever have not yet been isolated. This may be open to discussion, but it is a fact that the organisms which have been isolated and which bacteriologists of the highest repute believe to be the causes of these diseases are no more difficult to destroy by heat than the diphtheria or typhoid bacillus and it is a matter of common knowledge that the vaccine virus loses its effect at a very moderate temperature. There is not the slightest reason for supposing that these organisms are capable of withstanding the action of steam applied in circumstances which would infallibly destroy the spores of anthrax. Another, and most important, point which Mr. Defries ignores is the fact that when current steam is admitted into any form of apparatus in which bedding, clothes, &c., are being disinfected, the steam must be condensed by these cold articles and that the incoming steam in contact with the excess of moisture must become and remain saturated, even if, upon entering the apparatus, the steam is one or two degrees above the normal boiling point. The steam in the interstices of the bedding must remain saturated during the whole process of disinfection.

These and other points dealt with by Mr. Defries are of little importance compared with the results of experiments made with actual disinfecting machines. If the results obtained do not correspond with Mr. Defries's theories, so much the worse for the theories, and if a machine using current steam, or steam under very slight pressure, will disinfect as well as the pressure machines with their complex arrangement of pressure gauges, water injectors, vacuum apparatus, &c., it follows that their greater simplicity will result in their continued use. May I, therefore, direct your attention to the results of your own Special Commission on Disinfection, published in THE LANCET only a few years ago. Writing of a current steam machine which your Commissioner had tested you state: "To sum up, it will be seen that in no single particular have we found the invention of ..... to come short of the requirements which we have laid down as essential in a machine intended for practical disinfection. ..... Next and above all, it is efficient as a steriliser." I may be allowed to add that since that time the same form of machine has been submitted to more rigorous tests by various commissions and by Government officials, without a single failure, even with the spore-bearing bacilli of most resistant anthrax.

Practical tests of this kind are, I contend, far more important than any number of theoretical deductions or laboratory experiments and conclusively establish the fact, first pointed out by Koch, that current steam properly used is thoroughly reliable for disinfecting purposes. Space will not permit of my dealing with the final statement of Mr. Defries that return cases of infectious disease may be due to insufficient disinfection beyond remarking that there has never been any proof adduced of this and that should it be true it would affect one form of machine as well as another, assuming that each was an efficient steriliser if properly used.

I am, Sirs, yours faithfully,

Oct. 4th, 1905. JOHN C. THRESH.

VARICOCELE—WHAT OF IT?

To the Editors of THE LANCET.

SIRS,—It is very interesting to read the different views of surgeons on this important question. Mr. Harrison Cripps considers that varicocele is not an abnormal condition but merely a provision of nature to keep in abeyance the functions of the testicle when not required. If this is so, why does nature not provide this condition on both sides, as in nine cases out of ten the left side only is affected? On the other hand, Mr. Edred M. Corner considers that fibrotic changes in the testicle are due to varicocele and that operation hastens and magnifies these changes. If this is correct varicocele must be an abnormal condition.

That varicocele does cause real suffering at times I have no doubt, as during the two years I was civil surgeon with the South African Field Force I saw many cases in which a varicocele did very greatly interfere with the ability of a soldier and often prevented him from performing his duties on active service from pain and increase in size of the varicocele. I also operated on several of these cases with the greatest benefit to the sufferers. I remember one man who wore out his suspensory bandage marching and I know that that man used to suffer agonies from his large varico ele; at times he felt quite sick with pain and would always take the opportunity of bathing his varicocele if he came to a water course on the march. He was very plucky and would not go sick, although I advised him to on several occasions. Mr. Jacobson, in his book "The Operations of Surgery," mentions the case of ——, a goods guard on probation, who had a large left-sided varicocele which threatened to spoil his prospects, the aching pain from which invariably followed the jumping in and out of his break-van, being only relieved by the patient's lying down and being inevitably brought on again by the exertions at the next station. Mr. Jacobson operated. Five years after the operation the man stopped Mr. Jacobson on London Bridge, saying that he was in regular employment as a goods guard, married, and the father of two children.

As recruiting medical officer at Winchester, out of 530 recruits during the past year I have rejected 21 for varicocele and these were all large varicoceles, left-sided, and with the testicle hanging abnormally low. In my opinion if a recruit has a large varicocele his gymnasium course will cause it to pain him and I have seen these varicoceles become very painful and tender during a gymnastic course.

It was only quite recently that a recruit who had been passed in London was sent to this depôt. He had a large left-sided varicocele. The medical officer who passed him wrote on his medical-history sheet "that he was willing to undergo an operation if the varicocele in any way interfered with his duties." In less than ten days after joining this station this recruit reported sick, saying that he suffered so much pain in the left scrotum and groin that he wished to undergo an operation. This was granted. A few months ago a middle-aged man came to my out-patient department at the County Hospital with a large varicocele and varicose veins of both legs. The varicocele was left-sided and the testicle hung very low; he stated that the varicocele gave him more pain than the veins in his legs and the pain was chiefly at night after a day's work. He was a farm labourer, married, and with a large family. He refused operation and was given a suspensory bandage. In Mr. Watson Cheyne's "Manual of Surgical Treatment" appears: "Varicocele—Operative. When for any reason an operation is desired a complete cure can be effected by a very simple operation which has no risk if it be done aseptically."

In conclusion, I think that—1. Varicocele is an abnormal condition, leading in some cases to changes in the testicle and in some cases giving rise to definite symptoms, such as pain, tenderness, &c., and although operation may not prevent the changes in the testicle it does relieve the symptoms. 2. That in some cases the condition may be relieved by palliative treatment—viz., support, regulation of the bowels, cold douches, and regular exercise. 3. That operation may be advised if the varicocele is large and causes the testicle to hang very low and if the varicocele gives rise to symptoms which are not relieved by palliative treatment. 4. That varicoceles ought not to cause rejections for the services but that candidates for the services suffering from varicocele should be asked to sign a form on passing into the service stating that they are willing to undergo an operation should the varicocele in any way interfere with their duties. I think this would prevent any tendency to malingering.

I am, Sirs, yours faithfully,

HERBERT JAMES GODWIN,
Surgeon to the Royal Hants County Hospital; late Civil Surgeon, South African Field Force; Medical Officer in Charge of Recruits, Winchester.

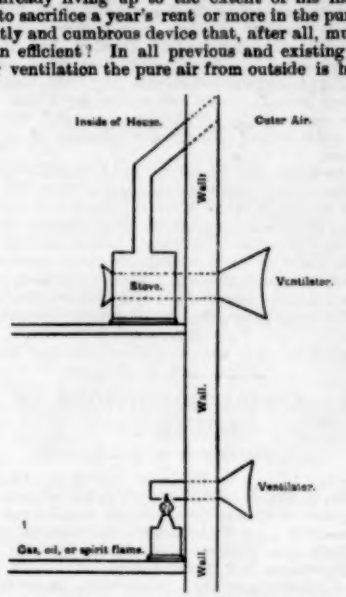
Oct. 2nd, 1905.

HOT-AIR VENTILATION.

To the Editors of THE LANCET.

SIRS,—The most careless observer cannot but have noticed the increased, and daily increasing, interest displayed by the general public in the questions of health and longevity. 100 years ago, or less, when our forefathers awaited impatiently the retirement of the ladies as the signal for an orgy of excess, the term "hygiene" was scarcely recognised as a word to be used in ordinary converse. Now we talk glibly of "bacteria" and "microbes." As for our hospitals and gaols, in the matter of ventilation, it was little thought of in summer and regarded as something suggestive of insanity in winter. *Tempora mutantur, nos et mutamur in illis.* Nowadays in our hospitals and prisons, in the Houses of Parliament, and in a few public buildings, the importance of pure air is recognised, though scarcely with enthusiasm, and it is even admitted in behalf of our lungs and brains to be as needful in winter as in summer.

At an enormous expense, and by means of a complicated and costly machinery, attempts have been made to supply a warm-air ventilation—how ineffectually may be learned by a reference to the representations of so many Members of the House of Commons in the last session of Parliament complaining that the deteriorated warm air so admitted caused irresistible feelings of lethargy and somnolence. The simple fact was that in the process of heating the pure air was deprived of a considerable portion of its oxygen with the substitution of a deadly poisonous gas. But however necessary may be a supply of pure warm air in winter in the cases of hospitals and public buildings, it will be readily conceded that it is quite as desirable in private dwellings. But what hope is there, and what inducement, for the householder to introduce such a desirable novelty when he has before him the example of the Houses of Parliament? Can the simple man, perhaps already living up to the extent of his income, be expected to sacrifice a year's rent or more in the purchase of an unsightly and cumbrous device that, after all, must prove worse than efficient? In all previous and existing systems of hot-air ventilation the pure air from outside is heated in



Showing simplest and cheapest form of hot-air ventilation. For house or single room.

actual contact with the heating agent, generally an open fire of coal or charcoal, and it requires little knowledge of chemistry to understand that this cannot be done without abstraction of oxygen and the formation of carbonic acid gas.

Having these conditions in view it has occurred to me that pure air might be warmed, not thus *in aperto* or in the open, but in a closed tube or channel, and it next struck me that the principle has already been utilised in the case of water, as seen in the well-known geyser process. Not to trespass further on your space I will content myself with submitting a drawing that may show more clearly the idea I have endeavoured to describe. And I would particularly beg attention to the extreme simplicity, and consequent economy, of such an arrangement, alike adapted to the largest building and the smallest cottage, or even to a single room.

I am, Sirs, yours faithfully,

A. C. MACLEOD, F.R.C.S. Eng.,
Colonel, I.M.S.

Sept. 23rd, 1905.

IS ALCOHOL EXCRETED BY THE SKIN?

To the Editors of THE LANCET.

SIRS,—Mr. D. Harris's letter in THE LANCET of Sept. 30th reopens a very important question—namely, the extent to which the skin may act as an excretory organ. The matter is one which has been interesting me very considerably of late and the only conclusion to which my investigations have so far led me is that very little of a positive nature is known about it. From the aid which it is capable of giving in rapidly eliminating the uræmic poison and from the part which it plays at health resorts in gradually expelling the gouty and rheumatic toxins it is obvious that the excretory power of the skin is very considerable; that it is a function which is hygienically and therapeutically unduly neglected few would be found to deny. This neglect arises largely from the ridiculous heresy which surrounds the everyday treatment of the cutaneous surface—that, namely, which decrees that it should be continually swathed in wool or flannel. This material, being completely devoid of absorbent properties, the organ is for ever surrounded by a warm, damp, impure atmosphere, than which, as every climatologist knows, nothing is more inimical to cutaneous secretion.

Mr. Harris is probably quite right in his view that at high

altitudes and in dry climates—under conditions, that is, which favour metabolism and cutaneous activity—alcohol, together with many other materials which in the opposite climatic conditions are either retained or forced to seek other exits, is freely excreted by the skin. And if he is it follows that flannel or woollen underwear seriously interferes with the capacity to take alcohol with impunity, a consideration which, if duly acted upon, might save many from the doleful necessity of echoing your correspondent's pathetic lament that he uselessly deprived himself of the pleasures of alcohol for a period of no less than ten years.

I am, Sirs, yours faithfully,
LEONARD WILLIAMS.

York-street, Portman-square, W., Oct. 2nd, 1905.

A MINOR SIGN OF INFLUENZA.

To the Editors of THE LANCET.

SIRS,—Many of the slighter forms of influenza occurring during the last quarter have exhibited little or no rise in temperature; on the contrary, the latter may be subnormal. The individual feels ill and depressed for several days and may suffer muscular pain in different regions of the body. When he seeks medical advice the medical man probably finds nothing tangible. Now, in the majority, and particularly in those who have not complained of throat symptoms at all, there may be seen during the time, and perhaps for a fortnight subsequently, two narrow patches of congestion, symmetrical in position and usually only an inch long and less than a quarter of an inch in breadth. Each is dark-red and situated along the lateral edges of the soft palate or just encroaching upon the anterior pillars. In pale anæmic throats they are very manifest. I propose to call them "influenzal crescents." They are of assistance in the diagnosis of these indifferent states of health and are to be strictly differentiated from the influenzal throat proper. It looks as if the bacilli-laden air had struck the edges of the soft palate during its passage to the lungs.

I am, Sirs, yours faithfully,
WALKER OVEREND.

Clacton-on-Sea, Sept. 30th, 1905.

THE HONOUR OF THE MEDICAL PROFESSION.

To the Editors of THE LANCET.

SIRS,—I am much your debtor, not only for the insertion of my letter of disclaimer and explanation anent the Bucci Medicine Syndicate in THE LANCET of Sept. 9th, but for the facilities for the fullest inquiry and criticism which the medium of your columns affords. Three weeks have elapsed and no response has reached me through the publicity of your journal or otherwise, and I feel that I may now fairly say with some finality, coupling this silence with the negative results which searching inquiries yielded at the outset of the prospectus, that the profession has no questions to raise in this matter nor the public any complaint to make.

I should like to make clear that in November, 1903, when the prospectus was issued, my solicitor, Mr. Sidney Newman, in whose hands I have been throughout and whose advice I have acted upon from first to last, gave the whole subject his fullest consideration and attention. Mr. Newman not only weighed the question of the disclaimer and the effect of the prospectus, which has been fully explained in my previous letter, but the propriety of applying for an injunction to restrain the firm from using my name and of entering action for damages were exhaustively investigated. As this latter process would have added some hundred pounds to my costs, he decided on financial lines to take no action, and I venture to think that subsequent events verified the astuteness of his decision, for shortly afterwards the concern went into liquidation and closed its doors and the proprietors could not be found. One of them, however, the author of the misuse of my name, recently figured in public at the Essex assizes, where in June last he was sentenced to 15 months' hard labour for frauds by means of worthless cheques at Walthamstow.

The conception of a disclaimer is not my own but in conformity with the view of the British Medical Association, which they have not till recently—July 14th last—revealed to me, and I can only repeat that to my own mind the evidence, as yet before me, amounts neither to a *raison d'être* of a "disclaimer," much less of an "apology" from myself. In conclusion, I trust that my explanations are sufficiently clear, adequate, and satisfactory to vindicate the course I have pursued, but I am open to conviction and if any person should have any exception to take to my procedure I trust no time will be lost in making their reasons public.

I am, Sirs, yours faithfully,
DENNIS VINRACE.

Alexander-square, S.W., Sept. 30th, 1905.

TETANIC CONVULSIONS CAUSED BY COCAINE.

To the Editors of THE LANCET.

SIRS,—The paper in THE LANCET of Sept. 23rd by Dr. A. E. Russell recommending subdural injections of cocaine or eucaine in cases of tetanus induces me to put on record a case under my care in 1885 where tetanus was, in my opinion, directly caused by a hypodermic injection of the former drug.

On March 21st, 1885, at 3.30 P.M., I ligatured a large nævus on the cheek of an infant three months old. The father, who had been experimenting largely with cocaine, asked me to give a sixth of a grain hypodermically. This I did with a perfectly new and carefully cleansed syringe and a solution prepared by him. The operation was apparently painless but before the ligatures were tied tetanus set in. After finishing the operation and applying a dressing we put the child in a hot bath and gave a good dose of potassium bromide, which was repeated every three hours. Opisthotonos was well marked and spasms came on about every three minutes, the lips were livid, and the pupils were widely dilated. The spasms gradually became weaker and by 8 o'clock the child fell asleep, but the rigidity of the muscles of the neck and back lasted about 14 hours longer. It is evident that too large a dose was given but at that time the drug was considered an absolutely safe one.

It appears to me that the above case shows that extreme caution is needed in prescribing its use subdurally as a remedy for tetanus.—I am, Sirs, yours faithfully,
VERE G. WEBB, L.R.C.P. Irel.

New Kent-road, S.E., Sept. 26th, 1905.

THE NOTIFICATION OF DIPHTHERIA.

To the Editors of THE LANCET.

SIRS,—Whilst thanking you for the replies to my queries, perhaps you will allow me to make a few observations upon your annotation. It appears to me that you attach too much importance to the position of B and C in the matter so far as the council is concerned. The crucial point is this: Parliament in compulsorily applying the Public Health Act to every local authority, expects its provisions to be enforced under the guidance of the *medical officer of health*; otherwise the Act becomes a farce. The opinion of a private medical practitioner should not deter a council from performing its duty under the Act. Notification is futile if the medical officer of health's instructions are disregarded in this outrageous manner and the health of the community is consequently endangered. Laxity in the administration of the Act incites others to disobey it. I stated in my letter that the clinical signs of the disease had disappeared when B and C saw the patient; it therefore follows that they would be absent when the second medical officer of health examined the case a week or ten days later. The defence could not maintain that the throat was for a time free from bacilli since B and C omitted to take a swab for bacteriological examination.

I am, Sirs, yours faithfully,
LEX.

Oct. 2nd, 1905.

*** It is essential to a prosecution of the kind suggested that there should be proof, not of the existence of a certain disease, but of the person charged being aware of its existence. The parent who was informed rightly or wrongly by B and C that his child had not got the disease would not be likely to be convicted of being aware of its presence, unless, as suggested in THE LANCET of Sept. 30th, p. 978, he (the parent) was proved to have concealed from B and C points of which obviously he ought to have informed them.—ED. L.

SCIENCE AND ITS "CORPUS VILE."

(FROM A CORRESPONDENT.)

Medical Experiments on Man since the Middle Ages.

IT may interest the readers of THE LANCET in reference to the leading article in the issue of Sept. 30th to know that Dr. G. Daremberg, in a recent number of the weekly review issued by the *Journal des Débats*, publishes some extremely curious and instructive facts connected with experiments made upon the human subject for the advancement of medical science. The ultimate outcome of ethical feeling in this respect among confessed experimenters who overlook the detriment of the individual in consideration of the possible good to be achieved for the species, seems, according to Dr. Daremberg's facts, to be the conviction that the physician has the right to experiment upon himself alone, and even though this conclusion may only commend itself to some, it is interesting to all to observe the progress of the humanitarian sentiment even so far throughout the course of human history.

At the commencement of the Renaissance period, says Dr. Daremberg, the most celebrated physicians of the age were attacked by a truly criminal scientific folly: the mania of experimenting upon human beings. Fallopius, the great anatomist of Pisa, is considered to have led the van. Cosmo de Medici, Grand Duke of Tuscany, ordered the Pisan magistrates on one occasion to hand over two men to Fallopius, "in order that he may put them to death in whatever way he pleases, and then anatomise them." Fallopius, however, seeing the men were condemned to death, seems to have acted with both dignity and humanity. He gave them each eight grains of opium; one died and the other recovered. Cosmo pardoned him but, if we may believe contemporary records, Fallopius did not: he gave the man eight grains more, and this time he died.

Fallopius's master, Brassavola, had already studied doubtful remedies at Ferrara on the persons of condemned criminals. At Bologna poisons were habitually administered to criminals without their knowledge to obviate the perturbing influence of fear upon natural toxic effects. Arsenic was employed in the same way at Mantua and Florence. Even princes of the Church did not show themselves above taking part in these experiments. The Cardinal Archbishop of Ravenna, with the permission of Duke Ercole II., tried the effects of corrosive sublimate (!) as an antidote. Though this seems rather like cutting off a child's head to cure it of squinting, Pope Clement VII.'s experiment of a secret oil given to certain unfortunate Corsicans as an antidote to the juridically administered aconite—a poison of great repute in the East and much studied by Avicenna—may be cited as a more humane effort in the cause of science, and was, no doubt, considered to have been partially successful, as one of the victims survived the aconite and received a free pardon.

Ambroise Paré, the eminent Paris surgeon, was invited by Charles IX. to try the alleged antitoxic action of the calculi found in the intestines of oxen, and known as "bézoards," upon a man condemned to be hanged. Whatever the poison was which was administered in this case is not stated, but the victim suffered so cruelly that he declared he would have preferred death upon the gallows a hundred times over. Even in the eighteenth century François Ranchin, professor and Chancellor of the Faculty of Montpellier, wrote that experiments upon human beings were worthy of approval and had been held in high honour by the ancients. Vivisection of the live human subject had been, of course, practised by the Alexandrian school in the times of the Ptolemies. Erasistratus and Herophilus, pupils of Chrysippus of Cnidus, experimented upon 600 condemned criminals handed over to them by Ptolemy Soter. They opened the abdomens of these unfortunates to study the movements of the colon and those of the muscle of the diaphragm on the inspiration of air; they also opened the chests of some to study the cardiac movements. Their conduct, however, met with the reprobation of their contemporaries. Celsus and Galen reproached Herophilus with "cruel and useless sacrifices" of human feeling, while Tertullian called him roundly "an executioner, who gave lingering death with refined cruelty." The court physicians of Attalus, King of Pergamus, and Mithridates, King of Pontus, were authorised in virtue of their office to try poisons upon criminals, and were accused by their jealous colleagues of pluming themselves upon their privileges, while less favoured practitioners were compelled to content themselves with cocks and dogs to experiment upon.

In more modern times Dr. Clot, Dr. Bey, and Dr. Buland in France inoculated seven condemned criminals with the plague, but only one of them contracted the disease. Recently, in Germany, Professor Neisser inoculated a man with carbuncle (*le furoncle*), and was denounced for it by Professor Virchow in the Prussian Landtag. Referring to Dr. Koch's theory as to the intransmissibility of bovine tuberculosis to man, Dr. Daremberg considers that this question might fairly be decided by experiment upon human subjects, but, of course, only if they offered themselves voluntarily, as was done in the case of yellow fever.

Dr. Spallanzani, Dr. Brown-Séquard, Dr. Stark, and Dr. Rabuteau have studied the physiology of the process of digestion in their own persons. Bull's blood having been supposed by the ancients to be poison and to have been the means of suicide to the great Athenian leader Themistocles, Voltaire—no doubt on returning from his exile in England—gained considerable glory in France by swallowing it with impunity.

THE DISINFECTION OF AMBULANCES: PROFESSOR VON BERGMANN'S VIEWS.

(FROM A CORRESPONDENT.)

IN an essay contributed to the Berlin *Nationalzeitung* entitled "Fighting Epidemics," which deals with the present cholera epidemic in West Prussia, Professor von Bergmann, director of the Berlin Royal University Hospital (Königliche Universitäts-Klinik), makes some interesting remarks under the above head.

"As it becomes more probable," he says, "that the cholera is decreasing in the Vistula district we can now discuss more calmly the arrangements for combating the disease. Even though our satisfaction at the measure of success attained by us in this and at the steadfast and faithful attention of the medical men is justified, still, after a successful engagement the leaders of an army do well to inquire whether their arrangements might not have been better and their weapons sharper. Throughout the epidemic the supervision of the waterways did most excellent work. The fact that the cases of cholera at Stettin and Dantzig did not lead to a furious spread of the disease is a marvellous accomplishment on the part of the waterways supervision in the way of early bacteriological diagnosis. It will be also the supervision we shall probably have to thank that the skiff of the bargeman who recently died from cholera in the urban dock of Berlin does not contaminate our Spree water. But not only through the medium of drinking water but also through immediate contact with patients, their motions, clothing, &c., can the infection be taken. That the large cities on whose doors disease knocked were not imperilled by this 'contact infection' is due rather to good fortune than careful foresight. We learn, for instance, that in Hamburg the Russian emigrants who were suffering from cholera were reported to be laid up with pneumonia. Suppose that had happened in Berlin and a layman or medical man had telephoned to the headquarters of the Ambulance Society (Rettungsgesellschaft) to have the patient taken to a hospital. The Ambulance Society has a contract with four firms here who send their ambulances with commendable promptitude wherever they are asked for. But the contractors are in no way bound to disinfect their ambulances after each journey. The same ambulance which has just taken a cholera patient to the hospital goes on straight to a case of 'severely injured' or childbirth and brings the case to the hospital where the porter may give the driver two convalescents to be conveyed to their homes. That was the case at Charlottenburg where a medical man suffering from plague was brought to the Municipal Hospital. Supposing the infection from the seats used by a cholera patient in an ambulance were conveyed to four or five persons who occupied those seats after him how many centres of cholera would then be brought into the city? On the occasion of the case of plague which occurred here last year I started a discussion in the *Berliner*

Medicinische Wochenschrift on a similar state of things, which to my delight was not without result. The First Aid Society (Verband für erste ärztliche Hilfe) which is composed of the board of administration of the accident stations (Unfallstationen), the Ambulance Society, and the majority of the public dispensaries and surgeries (Sanitätswachen) took the thing up and made an arrangement whereby patients could be transported in ambulances which were disinfected each time after use. If a patient who is thought only to be in a passing faint but who is really suffering from plague or cholera is carried in such a carriage it cannot harm the next occupant of the same carriage, for after each journey the ambulance is thoroughly disinfected according to Professor Proskauer's method under the superintendence of three medical men. The police immediately saw the advantage of this procedure and concluded a contract with the society by which the latter was to undertake all police orders for the removal of persons injured in the streets or otherwise ill. The City Poor Administration has done the same as regards its patients. It is greatly to the credit of Herr Max Schlesinger that he has in a few weeks placed 16 ambulances in the service of the society, while during the cholera scare he had about 100 ready to be called upon in case of need. The disinfection of the ambulances is not easy. Professor Proskauer is continually striving to practise and to perfect the method of disinfection worked out by the Institute for Infectious Diseases. We are able to state, though, that the ambulances are disinfected in the most thorough fashion in the stableyards of the society. Not only are the ambulances disinfected but also the pillows and wraps on which a patient has lain, as well as the special clothing of the ambulance attendant and driver."

THE PRESENT STATE OF MEDICAL PRACTICE IN THE RHONDDA VALLEY.

(FROM A CORRESPONDENT.)

IN all parts of Great Britain we find competition in the profession increasing, except in the Rhondda Valley, where competition may be said to be almost non-existent. The causes of this lack of competition in a large and progressive district are not far to seek: whilst the population of the valley increases largely every year the number of medical men practising makes no advance. Some would say, Why draw attention to this paradise? Why not leave it alone and allow the practitioners of the Rhondda Valley the benefit of what is denied to their brethren elsewhere? It is not, however, with the object of pointing out a paradise and inviting medical men to try their chances in the district that I write; I write to point out how in the present circumstances competition is impossible in the district and the effect of it on the masses. In order to do this I must go back a little way in the history of the Rhondda. 50 years ago before coal was being worked to any extent the population was very scanty but on the discovery of the valuable steam coal the population ran up by leaps and bounds till it is now approaching 120,000. For some reason or other the miners appointed a medical man to each pit or group of pits and every collier was, and is, compelled to pay a percentage of his earnings to the medical man so appointed. Consequently a medical man holding a pit appointment had the run of the private practice in the place as the latter was not, and is not, sufficient to keep another practitioner. As three-quarters of the population are colliers and every man is compelled to pay to the medical man elected by the majority of the men it will be seen that competition is impossible.

The methods by which a medical man is elected to one of the colliery appointments are very objectionable and it is high time that something was done to prevent the abuses occurring in the future. When an appointment falls vacant the applicants submit their credentials to a committee of workmen. This committee is composed of men who have little knowledge of anything and practically none of the medical profession. Testimonials are submitted by the candidates from eminent medical men and others. I have seen testimonials from drapers, grocers, and other tradespeople, in a candidate's favour. The candidate in many cases distributes copies of these testimonials to the electors—i.e., the colliers—and is not above calling on them and soliciting their votes. The committee selects a few "suitable" candidates and from this number one is elected by ballot. The candidate who secures the most votes is appointed the surgeon to the pit and the authorities deduct from every workman 3*d*. in the £ which they pay to the surgeon. Canvassing throughout the election is carried on to a most deplorable extent. I have seen the testimonials of one candidate displayed in a shop window for the edification of the passers-by. Having secured the appointment the surgeon will almost invariably find that he is unable to do the work alone, so he enlists the services of one or more assistants. Until quite recently these assistants were as often unqualified as qualified. So ignorant is the miner of the medical profession that these unqualified assistants were always called "Dr. So-and-So." The title "Dr." even was granted to the other employés of the "colliery doctor." Of recent years some colliery proprietors have allowed their workmen to pay to whatever medical man they like irrespectively of the one selected by a majority of the men. But these proprietors are few in number.

Now what has been the result of the methods above described? First, the collier has little or no respect for the profession; and, secondly, he is now beginning to think that competition among medical men is as good for the community at large as is competition among tradesmen. His methods, however, of attaining the competition are not going to be in the best interests of the profession. He is now agitating for greater control and in a few months, or possibly weeks, he will have succeeded in gaining his point. As the arrangement is at present he cannot "sack" his medical attendant, whether he is satisfied with him or not; whether in his opinion the medical attendant does his duty or not he is still compelled to pay his percentage to him. By his new method if the miner thinks his medical attendant is not doing his duty to him he will be able to "sack" him. It is proposed (and I understand that the miners are going to make a point of it at the meeting of the conciliation board to be held shortly), first, that the miner shall pay 1½ per cent of his wages to a common fund, called the "doctor's fund"; secondly, that this fund shall be administered by a committee of workmen; and thirdly, that a "head doctor" shall be appointed by each pit or group of pits at a stated salary and that "assistant doctors" shall be appointed as the committee thinks fit. The committee will buy all drugs, dressings, &c.

The medical men will thus become the mere tools of the workmen and their position will be untenable. The question which has to be answered is, How can this retrograde step be prevented? The British Medical Association has tried to prevent the formation of these "doctors' funds" but it is practically helpless in the matter. Candidates to fill the appointments can always be found. The mistake which the British Medical Association has made is in beginning its work at the wrong end. It is obvious to all that the miner wants competition and competition is what he is going to have; in short, he intends having an "open door." Then why does not the British Medical Association meet his requirements by helping to give him the "open door?" By "open door" I mean allow the miner to pay to what medical man he likes at his pit. As is stated above, it is done in one or two pits and works well there, why should it not be done in all? Abolish these elections and thus do away with the opportunity for canvassing and testimonial exhibitions. Up to the present the British Medical Association, by supporting this monopolist principle, has driven the miners to seek some way out of it and the way they have found cannot commend itself to anybody interested in the profession. I have it on the best authority that if the "open-door" principle were adopted the miner would be satisfied and the "doctors' funds" would die a natural death.

There is another grievance which the miner has against the profession and one which it is deplorable to have to record. With some "colliery doctors" it is the practice to attend free the tradespeople in the place in which he lives. The collier naturally says, "I am paying more than I ought to do, or the doctor would have to charge the tradespeople." I have frequently heard this remark. Apart from the fact that the collier is paying for the medical attendance on tradespeople it is obvious that the medical man attending people for nothing just because he gets a large sum annually from the colliery is preventing another medical man getting a livelihood.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

University Intelligence.

THE medical faculty of the University inaugurated the opening of the winter session on Oct. 2nd by holding a conversazione. There was present a large assembly, including the Vice-Chancellor, the Pro-Vice-Chancellor, and the Principal of the University. The guests were received in the medical hall by the Dean of the Medical Faculty and the Dean of the Dental Board. Previously the chief feature of the meeting has been an address but this year a departure was made from the usual custom by substituting two concerts, in the interval of which demonstrations and exhibitions were given by Professor R. F. C. Leith, Professor Robinson, Dr. Thomas Wilson, Dr. J. T. Hewetson, Dr. A. S. Stanley Barnes, and Dr. Smallwood Savage. Drugs, surgical instruments, and dressings were also shown. For the first time also the conversazione was held in the new buildings of the University Club which has just been erected and which will be officially opened to its members in a few days' time.

Hospital News.

The opening of the new Birmingham and Midland Hospital for Women by Mrs. J. S. Nettlefold has been the event of chief interest since my last letter. The ceremony was performed in the presence of a large and distinguished audience, including the Lord Bishop of Birmingham and many of the leading lay and professional gentlemen of the city and district. The hospital and grounds cover a site of 8500 square yards and possess frontages to Showell Green-lane and to Park-road. Of simple and unpretentious design the buildings are nevertheless refined and tasteful in their architectural effect. Nearest to the main road is a range of administrative buildings and a nurses' home of two main storeys with an attic overhead. Behind and divided off by lawns and tennis-courts are the wards for patients forming two wings, north and south of the connecting corridor and lift. The wings are two storeys in height and have as their main features four large wards, each containing ten beds. The upper wards have open balconies on three sides and at the ends external iron staircases to the ground. There are also four small wards containing two beds each. Each block rests upon a basement of open arches and everywhere there is ample cross ventilation. The walls are plastered with non-absorbent material, tinted pale green, while the woodwork everywhere is enamelled white. Everything has been done to render the building and its equipment as aseptic as possible. Near the centre of the upper corridors are two sets of operating rooms with the most complete equipment. The walls and ceiling have a surface of continuous washable material in preference to glazed tiles and the ceiling is rounded so as to avoid the danger of any condensed moisture falling from it. Nearly 50 patients will be accommodated as compared with 24 in the old hospital. It is in every way a model building for the purpose which it is to serve and it is satisfactory to learn that it has been opened free from debt. Unfortunately, the subscription list and endowment fund are both very small and an increased income of £800 or £1000 is required before the institution can be fully utilised. The building has been thrown open for the inspection of the public until Oct. 2nd, when it is hoped patients will be admitted.—The hospital erected at Moorcroft, Bilston, under the direction of the South Staffordshire joint small-pox hospital board will, it is expected, be completed in a few weeks. About two years ago the sanitary committee of the Staffordshire county council initiated a movement for the erection of such a hospital under the Isolation Hospital Acts, on lines similar to one that had been established in North Staffordshire, and the constituent authorities represent Wolverhampton, Smethwick, Amblecote, Bilston, Coseley, Darlaston, Heath Town, Rowley Regis, Sedgley, Short Heath, Tettenhall, Tipton, Wednesfield, and Kingswinford, with a population of 337,387 and a rateable value of £970,877. The hospital will provide accommodation for 40 beds. The buildings consist of three blocks with two wards in each block, with concrete sites for further extensions in case of an emergency in the shape of an epidemic. In addition there are provided a laundry, a disinfector, a destructor, stables, and an entrance lodge. Dr. G. Reid, the county medical officer, is the consulting medical officer.

Private Patients in the Birmingham Asylums.

The lunatic asylums committee of the city council has now made arrangements at certain of the institutions under its control for the reception of private patients and has thus made provision for many patients who, while not belonging to the poorest class, are yet not in sufficiently good circumstances to enable their friends to pay the charges for maintenance in ordinary private asylums. Before the opening of the Hollymoor Asylum such accommodation could not properly be afforded but now there is a sufficiency of reserve accommodation for the purpose. The committee has arranged that two wards in the Winson Green Asylum shall be set apart for such patients, one for males and the other for females. It has also been arranged that as soon as these patients are convalescent the men shall be transferred to the Leveretts and the women to Glenthorne, at each of which establishments accommodation is provided for 40 patients. The minimum charge is to be 15*s.* for each patient per week and the committee believes that when the Leveretts and Glenthorne are fully occupied the establishments will be self-supporting.

The Health of Birmingham and District.

The cold weather which we have had of late has been accountable in Birmingham for a marked decline in the prevalence of diarrhœa and a substantial increase in the number of deaths due to diseases of the respiratory organs.—In a report issued by the medical officer of health of Walsall it is stated that during the seven weeks ending Sept. 2nd out of 211 deaths occurring in the borough, no less than 96 were of children under one year. Out of 75 deaths from diarrhœa 65 were of infants and an investigation showed that nearly all were bottle-fed. With better nursing, feeding, and treatment of children, the medical officer was of opinion that the infantile mortality, which for a number of years had been a characteristic of the summer months, could be greatly reduced.—The digest of the annual reports of the medical officers of health and sanitary inspectors of the county of Worcester has just been issued. There has been during the past ten years a decrease in population in Bewdley borough of ten, in Kidderminster borough of 122, and at Stourport of 336. The greatest increase was in the King's Norton and Northfield district, the increase being 28,822. Among the rural districts there are only six which show an increase, these being Bromsgrove 268, Evesham 442, Halesowen 5105, Kidderminster 160, Upton-on-Severn 31, and Yardley 16,805. In dealing with the birth-rate it is pointed out that infantile mortality is on the increase and that the most certain way of reducing the death-rate is by saving the lives of children under one year, the deaths of so many of whom are due to carelessness and ignorance. The establishment of day nurseries or crèches is advocated in this connexion. Dealing with consumption the report shows that the county death-rate from this disease has been stationary for some years past. Only thrice in the last ten years has it exceeded 0·7 per 1000 of population—in 1902 it was 0·84; in 1896, 1·0; and in 1895, 0·9. Special reference is made to the good work being done by the Worcestershire Association for the Prevention of Consumption by its open-air sanatorium at Knightwick. In its second annual report it is shown that between November, 1902, and Dec. 31st, 1904, 215 persons applied to be admitted; of these 64 were treated in 1904, as compared with 49 in 1903. But as the funds only support 22 beds and there are probably 1500 cases in the county the institution can only deal with quite a small proportion of them. The disease was arrested in 87 per cent. of the "early" cases admitted in 1904, the term "arrested" being taken to mean that the patient was discharged free of fever, expectoration, and all signs of active disease in the lungs. Of the more advanced cases in 1904, 21 in number, nine were under treatment when the report was issued. Of the 12 cases discharged two became seriously ill, four reported their health as satisfactory, and four were able to resume their occupations. So satisfactorily has the institution accomplished its objects that efforts are being made to purchase the sanatorium in order to establish it as one of the permanent institutions of the county. The disease which caused most deaths during the year was bronchitis. In the urban districts there were 326 deaths from it, 221 from heart disease, 182 from pneumonia, 180 from cancer, and 128 from diarrhœa. Suicides numbered 28, accidents 72, pulmonary tuberculosis 151, measles 78, and whooping-cough 76. In the rural districts there were 265 deaths from heart disease,

208 from bronchitis, 142 from pulmonary tuberculosis, and 134 from pneumonia.

Local Sewerage Schemes.

The Walsall town council is still experimenting with the treatment of sewage and has just decided to spend £250 for the purpose.' A deputation from the council lately waited upon the county council but failed to induce it to agree to the new scheme of sewage purification for the borough being postponed until the local council had satisfied itself which was the best system. Plans which have been submitted by the borough surveyor will involve an expenditure of £80,000 and in the circumstances it was hoped that time would be allowed for further experimentation, but the county council has required the town council to take definite action within four months.—The Evesham district council at its last meeting decided to petition the Local Government Board for sanction to raise a loan of £2200 to carry out a scheme of sewerage for the village of Badsey.—The Broadway sewerage scheme has now been completed.

Oct. 2nd.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Sanitary Condition of Gorton.

THE sanitation of Gorton was under discussion at the meeting of the Chorton guardians on Sept. 22nd, when some difference of opinion was shown. It was reported that 15 cases of typhoid fever from Gorton were in the workhouse. Dr. Rhodes said that the number of these cases from Gorton was a serious thing for the ratepayers. It is not stated that it was considered serious for the patients. He said that more cases came from Gorton than from any other part of the district. He considered that it was due to the bad sanitary condition of that part of the union "where there were a large number of common middens." The representative of Gorton said that there was only one open ash-pit and that the medical officer could find no sanitary defect in any of the other houses from which these cases came. With such conflicting statements and an apparent inability to discover the source of the mischief there seems sufficient justification for special inquiry. The clerk pointed out that the cost of these patients was paid by the Gorton ratepayers. This will no doubt be soothing to ratepayers but it does not lessen the desirability of a special investigation. In Tyldesley where, as stated in the report of the medical officer for 1903–04, the enteric death-rate has been more than double that of England and Wales, where food, milk, water, or the dust of the coal mines had been eliminated as the sources of mischief, Dr. Johnstone is inclined to "a general fouling of the soil and subsoil in the neighbourhood of dwellings as a result of defectively paved or unpaved yards and by means of the privy-middens which abound in the district." It may well be that the soil about the dwellings at Gorton is not above suspicion.

Blackburn and Underfed Children.

For some time past the feeling of pity for children who have to go to school without breakfast has led to a great amount of controversy as to the best way of meeting this great evil. Somewhat wild things have been said from time to time, the result of insufficient inquiry, so that it is a pleasure to meet with a well-considered statement of facts. The medical officer of health of Blackburn, Dr. A. Greenwood, has prepared a report as to the underfeeding of school children in the borough. It was difficult in many cases to obtain trustworthy data as some parents were reluctant to answer questions of a private nature and no doubt tact and delicacy of feeling would be needed to overcome this difficulty; for the Lancashire operative class, though to southern eyes rough and uncouth in manner and given perhaps to showing an excess of the spirit of independence ascribed to them, have much tenderness of feeling hidden from all but those whose genuine sympathy melts away their reserve. Dr. Greenwood made inquiries into 540 cases where he had been led to think there might be underfed children and found 176 in which there was no underfeeding. In the remaining 364 he found seven families with 19 children in which the permanent poverty of the parents might result in underfeeding. In 69 families with 238 children it might be occasioned by temporary illness, loss of employment, or other unavoidable causes, while there were 19 families with 56 children in which underfeeding was probable owing to parental neglect. Dr. Greenwood calculates that not more than 1·3 per cent. of the 22,952 Blackburn school children are underfed. No doubt more suitable food is wanted in many cases but he does not consider the underfeeding is so acute as to require direct municipal assistance. Among the contributory causes he mentions alcoholism, laziness, indifference, and bad management on the part of the parents.

Street Hawking of Sweets.

A meeting was held in Manchester last week of the British Federation of Confectioners' Associations. The members of this ponderously entitled society protested against the sale of sweets in the streets for two reasons. One was that it was an injustice to shopkeepers, who had to pay heavy rates, especially in the main thoroughfares. Some people would say that these zealous free-traders, as no doubt most of them are, were seeking protection. Another reason, which has more interest to us, was that such trading was a danger to the public. When sweets are exposed for sale in the streets they must get more or less covered with dust of very mixed character. In addition to this the street hawkers are said to be persons who are not always scrupulously clean, so that the sweets may become contaminated and spread disease. It was decided, so far as Manchester was concerned, that the matter should be left in the hands of the local association.

Fever Ambulance Smashed.

One more danger has been added to those that fever patients may have to encounter. The other day two patients and a nurse were being taken to the Monsall Hospital when, in coming out of a side street, the ambulance wagon was caught by an approaching tramcar, knocked against a large lamp-post, and completely smashed. Marvellously, the three passengers escaped with a slight shaking. They were transferred to the police ambulance wagon and taken to their destination.

Poisonous Sweetmeats.

At the Northwich rural council meeting on Sept. 22nd attention was drawn to sweetmeats used extensively by children at Lostock. They ate them in school and as it was found they contained chlorodyne it is not surprising that "extraordinary sleepiness had been remarked among them." No doubt on a summer afternoon a good deal of drowsiness may occur without the aid of chlorodyne but this was so much more than normal that it was decided to report to the Cheshire county council and to request that sweetmeats should be analysed under the Sale of Food and Drugs Act.

New Infirmary at Bury.

A new infirmary has just been opened at the Bury union workhouse. The need for more hospital accommodation had been urged for many years by the inspector to the Local Government Board and about four since the guardians set themselves to make the necessary provision. The contract was for £20,699 and it has been built from the designs of Mr. A. Hopkinson of Bury. There is an administrative block with accommodation for the superintendent nurse and 16 nurses. The pavilions and wards, with a maternity ward, will admit 126 patients. In addition a new laundry, boiler-house, engine-house, and tall chimney are being built, the contract for this work being £9300. During the opening proceedings Mr. Jenner-Fust, the Local Government Board inspector, spoke of the better treatment to-day as compared with former days, illustrating his remarks by the following curious petition:—

> Petition to the House of Commons from inhabitants of Bury, presented by the Member for Oldham, 1837, and published in newspapers: "Your petitioners have seen with scorn and disgust the disregard to moral principle evinced in the low cunning and deceit with which the Commons have attempted to foist the new Poor law on these manufacturing districts, in which there exists a general conviction that its enforcement will be destructive of the peace of society and of the security of life and property. Your petitioners, convinced of the illegality as well as the moral turpitude of the proceedings of the Commons, and denying the rights of executive officers to issue rules and regulations inconsistent with the law of the land, have determined not to pay the slightest regard either to their orders or any officers under their control."

The opinion of the House of Commons of that day held by people of Bury, as well as that held about the new Poor-law, is expressed very distinctly and with true northern bluntness.

Manchester Skin Hospital.

The trustees of the Manchester and Salford Skin Hospital

have received a gift of £5000 from Mr. E. Reid, the surviving trustee under the will of Mr. Manasseh Gledhill. A ward of not less than six beds is to be called the "Manasseh Gledhill Ward" and during the lifetime of Mr. Reid two beds are to be appropriated to patients nominated by him.

Appointments.

Mr. E. M. Brockbank, M.D. Vict., M.R.C.P. Lond., has been appointed an honorary assistant physician to the Manchester Royal Infirmary.—Mr W. Barker Bale, M.R.C.S. Eng., L.R.C.P. Lond., medical officer to the Stockport workhouse, has been appointed visiting medical officer to the new union hospital at Stepping Hill. The stipend is £110 per annum.

Oct. 3rd.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

Sanatorium for Pauper Patients.

THE sanatorium which has been instituted by the Bradford board of guardians for the treatment of pauper consumptives at Eastby, near Skipton, was visited on Sept. 19th by about 150 members of the Yorkshire conference of Poor-law guardians on the occasion of their annual meeting which has just been held at Bradford. The institution, which was the first of its kind devoted exclusively to the pauper class, has, it is felt, an ideal situation, sheltered as it is beneath the crags of Eastby on the north and protected from the east winds by a furze plantation. The site, which has been placed at the disposal of the authorities by the Duke of Devonshire, is seven acres in extent, and the buildings are in the form of a long one-storeyed erection or bungalow, which has been constructed in the first instance for the accommodation of 30 patients. The delegates were impressed by the general excellence of the arrangements.

The General Infirmary: Resignation of Dr. Chadwick.

To the great regret of the board of the General Infirmary, a regret which is fully shared by his colleagues on the honorary staff, Dr. C. M. Chadwick has resigned his position as physician. Dr Chadwick was appointed assistant physician in 1892 and on the death of Dr. Jacob in 1894 he was elected to the vacancy thereby arising on the full staff. In accepting his resignation the board placed on record its hearty appreciation of the great services which Dr. Chadwick had rendered to the patients and to the institution during the 13 years of his connexion with the infirmary. In consequence of this resignation Dr. T. Wardrop Griffith, who was appointed assistant physician at the same time as Dr. Chadwick, and who, in accordance with the revised rules, was last year elected a physician with charge of out-patients, will be promoted to the full staff. This will necessitate the appointment of an assistant physician. The new rules provide that assistant physicians are elected in the first instance for a period of ten years; at the end of five years' service they are entitled to the use of four beds, and at the end of ten years, unless, indeed, they have already been promoted to the full staff on the occurrence of a vacancy, they must submit themselves for election for the post of physician with charge of out-patients, promotion to which does not involve any change of duties but puts them in the position of automatically filling any vacancies which may occur in the full staff.

The Nursing in the West Riding Infectious Hospitals.

The question of the establishment of a nurses' exchange for the various infectious hospitals within the administrative area of the West Riding was mentioned some time ago in this column. At an adjourned meeting of the committee appointed to inquire into the matter, the replies received from the various authorities showed the advisability of going on with the scheme. The rules and regulations will require to be drawn up with great care but the scheme appears to be one which should effect an increase in the efficiency of the nursing coupled with a diminution of the working expenses.

New Filter Beds.

The corporation of Leeds has purchased from Lord Grimthorpe 23 acres of land for the purpose of providing extra filter beds for the water-supply of the borough. This site is situated in the immediate neighbourhood of the old filter beds which have for some time been found inadequate to the requirements. The great increase in the water-supply to Leeds which will follow on the completion of the Ure valley scheme—a scheme which was outlined in THE LANCET of April 8th, 1905—carries with it a necessity for an increase in the number of filter beds. The citizens of Leeds are fortunate in having a supply of water which is remarkably soft and which yet possesses a very low degree of "plumbo-solvency."

Oct. 3rd.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Children's Sanatorium at Stannington.

ON Sept. 16th Mr. Roland Philipson laid the foundation stone of this the first children's sanatorium for consumption in the kingdom and Mrs. Roland Philipson laid the foundation stone of a boys' convalescent home, both of which buildings are in course of erection on the farm colony of the Newcastle and Gateshead Children's Rescue Agency and Holiday Association at Stannington, Northumberland. The general scheme is the outcome of the work of this association among the poor children of Tyneside. The association each year sends some hundreds of children into the country to benefit by a few weeks of good food and fresh air. The difficulty has been to know what to do with the tuberculous cases; none needed the advantages of the country more than they but there was no suitable accommodation for them. For these cases the sanatorium has become a necessity. It is to be built on the farm colony which includes an area of 173 acres in a very good part of the county. There will be accommodation for some 64 children and the estimated cost, excluding the site, is about £30 a bed. The sanatorium will, of course, be absolutely isolated from the other buildings in the colony. The association has already an income of £3000. Mr. Philipson has presented it with £5000, Mr. J. W. Spencer and his family have given £1000, and the executors of the late Mr Scott have handed over £500 towards the sanatorium fund. The idea of the farm colony is to attempt to bring back destitute lads to the land and to train them for useful agricultural employment. It is expected to be self-supporting.

Report on Secondary and Higher Education in Newcastle-upon-Tyne.

This report has proved of great importance to those who are interested in education in this district. It is the outcome of an inquiry made by Professor M. E. Sadler of Victoria University during 1904 on behalf of the education committee of the city and county of Newcastle-upon-Tyne. A pretty compliment is paid in the introductory note when Professor Sadler writes: "The concentrated attention and vigour of purpose displayed by the engineering apprentices in many of the evening schools are amongst the most striking things that English education has to show. And the visitor is often impressed by the native excellence of the material upon which the schools have to work." However, this must not be allowed to dazzle the reader who shortly finds that "there is a lack of linkage in the system, and is there not also at times a half-contempt for subjects which at first sight look impractical or detached from the work-a-day duties of life?" Or again: "Yet is there not a danger lest, as has happened more than once before in our educational history, we should attach too little importance to the humanities in education and too much importance to what is material and apparently capable of yielding direct profit?" In a city which contains two such educational institutions as the College of Medicine and Armstrong College, it is most important that the facilities for education during the intermediate stage between school and college life should be good and sufficient and it is just with this period that the report deals. It is laid down as an axiom by Professor Sadler that a course of secondary education should cover at least the four years from 12 to 16 and it is held highly to be desirable that instead of ending at 16, even the middle secondary course should be prolonged to 17 years of age. Ingenious diagrams show very clearly how rapidly the numbers in the secondary schools in Newcastle-upon-Tyne fall away after the pupils have reached their fifteenth birthday. So far as it concerns those who enter the profession of medicine this bears out what is too often the case that instead of a boy being allowed or able to stay at school

until the preliminary examinations are passed, he is taken away to be "crammed" by a professional "coach" until these ordeals are over. It ought to be possible for a lad to have such a training in our secondary and higher schools that at the ages of 16 or 17 years a youth can meet the medical preliminary examinations as a comparatively easy stage on his way to the medical school. Neither I nor the report suggests that this is impossible in Newcastle but it is clearly shown by this report that it is just these valuable school years that are not so well patronised in our city as they ought to be. Dealing with the after-history of the pupils from the secondary schools it is shown that from the Royal Grammer School 10·6 per cent. go on to the universities or other places of higher education, 5 per cent. from the Rutherford College, and 8 per cent. from St. Cuthbert's Grammar School. From the Royal Grammar School there are five scholarships to enable pupils to continue their education after leaving the school—one of £75 per annum, three of £40, and one of £30. Three of the five are at present held, two at Cambridge and one at the College of Medicine, Newcastle-upon-Tyne. Each of these scholarships is tenable for three years. In the "suggestions" which form an important part of this report it is recommended that in a scheme for secondary education for girls special stress should be laid upon the teaching of hygiene in its application to the health of the home, cookery, needlework, the care of rooms, laundry work, marketing, and the keeping of household accounts—a suggestion which savours of an unfortunate sign of the times which tends to place on the shoulders of the community some of the educational duties that properly belong to the parent. Professor Sadler insists on the need for school reference libraries and on the educational value of good pictures. The medical student in Newcastle receives his preliminary scientific training in chemistry, physics, and biology at the Armstrong College, which institution Professor Sadler calls "the crown of the educational system of Newcastle, the intellectual distinction of whose staff, and the scientific value of whose work are recognised in educational circles all over the world." The College of Medicine, not being a public institution, does not come under the cognisance of the report, but Sir Isambard Owen, principal of the Armstrong College, speaking on Professor Sadler's report, said that "he would like to see the College of Medicine brought more under public government and made part of public education, and he suggested the higher education subcommittee might consider that point." These are weighty words coming from one of the representatives of the senate of the University of Durham on the council of its College of Medicine and there are very many who have the interests of the College at heart who hope that they are not written in water of Lethe.

The Retirement of Dr. R. S. Anderson.

The retirement of Dr. R. S. Anderson, who was until quite recently medical officer of health of the urban district of Spennymoor, is owing to his having been compelled to resign his post on account of his health having broken down. His intention is to proceed to New Zealand and to practise there. All who know him will sympathise with him, for he has been in practice in Spennymoor for many years and has been medical officer of health for ten years. He has done excellent work, but, in the words of Dr. R. J. Reece, the Local Government Board, "unfortunately, the council have not always taken advantage of the reports of their medical officer of health." All his friends will wish him well in his new career, for it must be remembered that to start life afresh in a new country when one is past middle age is somewhat of a trial.

Oct. 1st.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Carnarvon Workhouse.

AT the last meeting of the Carnarvon board of guardians the medical officer of the workhouse, Dr. G. R. Griffith, reported that an inmate of unsound mind had escaped from the hospital. It appears that there is only one nurse for both day and night duty and Dr. Griffith spoke very strongly of the impropriety of keeping persons of unsound mind in the workhouse, the presence of such patients rendering it impossible to secure proper discipline in the hospital and making the nursing of the sick poor a mere farce. He also urged upon the board to make a proper classification of the hospital inmates.

The Midwives Act in Shropshire.

In his annual report to the Shropshire county council the county medical officer of health (Dr. James Wheatley) states that he has had startling evidence that many of the trained midwives require supervision quite as much as those who are untrained but for different reasons. He believes that if the Act is carefully administered great good will result and although it is intended primarily to protect the life and health of the mothers he considers that many infant lives will be saved which are now lost through ignorance or failure to call in medical assistance.

Madame Patti and the Cardiff Infirmary.

Madame Patti (Baroness Cederstrom) has most generously offered to give a concert in aid of the funds of the Cardiff Infirmary and arrangements have been made for it to be held on Oct. 21st. The concert will be under the patronage of H.R.H. the Prince of Wales.

Small-pox Accommodation in Gloucestershire.

The Gloucester city council has agreed to take small-pox patients from the Gloucester rural district into the city isolation hospital upon the rural district council undertaking to pay the actual costs incurred or a proportion of the cost when there are at the same time city patients in the hospital.

Cottage Building in Gloucestershire.

Upon the recommendation of the delegates who attended the housing conference recently held at Letchworth the Gloucester rural district council has decided to keep at the council offices plans and specifications of model cottages for the free use of any persons who are desirous of erecting such buildings.

Maternity Home at Newport.

A maternity home with accommodation for six patients has been established at Newport (Mon.). It will be administered by the governors of the Newport and County Hospital and will be available for the training of midwives.

Bristol Royal Infirmary.

The half-yearly meeting of the governors of this institution was held on Sept. 28th under the presidency of Sir George White. The chairman stated that there was a considerable increase in the income for the half year ending January, 1905, as compared with the six months ended January, 1904. He alluded with satisfaction to the fact that the unfavourable balance of £15,552 against the infirmary had been paid off, but there still remained a sum of £35,000 to be raised to bring the institution up to modern requirements.

Plymouth Borough Asylum.

At the meeting of the Plymouth borough council held on Sept. 27th the lunatic asylum visiting committee reported that the extension of the asylum buildings is nearly completed and that portions of the new wings are now occupied. The number of patients at present in the institution is 295, the largest on record, but when the enlargements are carried out there will be accommodation for 400.

Oct. 2nd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Changes in the Staff of the Edinburgh Royal Infirmary.

FOLLOWING upon, and consequent upon, Professor A. R. Simpson's resignation of the professorship of midwifery in the University of Edinburgh has come his resignation of his position as senior gynæcologist to the Royal Infirmary. The resignation was tendered in a gracefully expressed letter to the managers. The managers at their meeting on Sept. 25th passed the following minute in recognition of his long and valuable services to the infirmary:—

In taking leave of Professor A. R. Simpson, on his retiral from the staff of the Royal Infirmary in consequence of his resignation of the chair of midwifery in the University, the managers desire to record in their minutes and convey to him the expression of their gratitude and their sincere thanks for the conscientious, untiring, and sympathetic way in which he has performed his duties during the long period of 35 years. They regret to lose the able services of one who has not only kept in the van of his science but who has greatly aided its progress and who,

notwithstanding advancing years, yet maintains unabated his strength and zeal. They earnestly hope that, although now withdrawing from some of the more active duties of his calling, Professor Simpson may be spared for many years to continue the good work in other directions which it had ever been his aim and his pleasure to render on behalf of his fellow men. In accepting Professor Simpson's resignation the managers, as a mark of their high appreciation of his services, and in order to preserve his connexion with the Royal Infirmary, have pleasure in appointing him one of the consulting physicians to the gynæcological department of the institution.

The infirmary also loses at this time the services of its senior ophthalmic surgeon, Mr. George A. Berry, as his term of office as a full surgeon has expired. The managers at the same meeting passed the following minute:—

The managers regret that, in consequence of the expiry of his term of office, they must lose the services of Mr. George A. Berry as senior surgeon in the eye department. They desire to convey to him their sincere thanks for the able and untiring service which he has given the institution during the long period of 23 years. They are grateful that a man possessing a world-wide reputation, because of his ability in his special department of surgery, has devoted so much time to the gratuitous care of the afflicted poor. They hope that Mr. Berry's extensive knowledge, operative ability, and other talents may continue to receive that public confidence and recognition which they so richly deserve. In token of their esteem and of their appreciation of his work the managers appoint him one of the consulting surgeons to the eye department of the institution.

Candidates for the Chair of Midwifery in the University of Edinburgh.

The local candidates for the chair vacated by Professor Simpson are Sir J. Halliday Croom, Dr. D. Berry Hart, Dr. A. H. Freeland Barbour, Dr. J. W. Ballantyne, Dr. F. W. N. Haultain, and Dr. J. Haig Ferguson. No one seems to know what the University is to do in regard to gynæcology. It was hoped that this section of the work would have been definitely separated from the chair of midwifery at this time and that two completely independent appointments would have been made. This is so far not being done but it is very earnestly hoped that whatever difficulties there may be in the way of such an arrangement they will be speedily surmounted. Amongst the local candidates there are both admirable obstetricians and able operative gynæcologists but a combination of the two in one individual is not nowadays looked for.

The New Water-supply for Edinburgh.

Edinburgh has during the present summer and for several past summers suffered from a shortage of water. This is not only owing to an increase in the population but to a long period of short rainfalls. It was therefore with a considerable sense of comfort that the citizens read in the daily newspapers last week that the new water-supply had been officially turned on. The new supply comes from the Tala, one of the head waters of the Tweed. The scheme has taken years of work and has cost the city somewhere about one and a quarter millions of pounds sterling.

Cholera Scare.

Considerable apprehension was created this week by the report that two cases of cholera had been discovered on board a vessel lying in Glasgow Harbour. The steamer on which the illness took place left Ergasteria in Greece early in August and called at Algiers en route for Glasgow. Two days after the steamer's arrival in Glasgow the second engineer sickened and the medical officer of health, who was notified of the seizure, diagnosed the case as one of dysenteric diarrhœa. As the attack was acute and nursing accommodation on board was scarcely sufficient to meet the case the man was removed to hospital, where he eventually succumbed. A boy on board the steamer was also found to be suffering from moderate symptoms of the same disease and he, too, was conveyed to hospital. The whole incident was entirely devoid of importance but unfortunately one of the newspapers hearing the cases described as "British cholera" rushed into print with a sensational headline in which the word "cholera" was used without a qualifying adjective. The report at the time caused some uneasiness in the commercial part of the community, for had the harbour been declared infected ships leaving the docks would have been put in quarantine on reaching foreign ports.

Graveyard Scandal in Ayrshire.

The Local Government Board some time ago entered into communication with Dr. C. R. Macdonald, medical officer of health of Ayrshire, regarding complaints as to the alleged unsatisfactory condition of Stewarton churchyard. In consequence of this Dr. Macdonald visited the graveyard and found evidence of gross overcrowding with most unseemly disturbance of bodies at each interment, not only of bones, but of bodies in a fair state of preservation. In the latter case the coffins were burned, while the bodies were crumpled into a sack and buried in the smallest possible space at the bottom of the grave. As Dr. Macdonald says, this is a scandalous state of affairs and not only contrary to decency but constitutes a nuisance under the Public Health Act. He has advised the parish council to take immediate steps to provide a new cemetery and to have the churchyard closed under the Burial Grounds Act or Public Health Act.

Infantile Mortality in Barrhead.

For a considerable period the high death-rate among infants in Barrhead has engaged the attention of the town council. At the end of last year it arranged for circulars giving information regarding the care and feeding of children to be distributed but the result has so far been unsatisfactory. From the report of Dr. R. Corbett, the medical officer, it appears that last month 61·1 per cent. of the deaths occurred among children under the age of five years. The town council has again discussed the question and the latest proposal is to establish a day nursery. This high infantile mortality unfortunately is not restricted to Barrhead. It is probably inevitable that where we find human beings herded together in cities and large towns the natural consequences of a lowered vitality are most manifest in the increased death-rate among infants and young children. It is worthy of note that in Glasgow during the last 20 years, while there has been a considerable improvement in the general death-rate, the death-rate among infants has in no way diminished. The one satisfactory element in the whole problem is that the various town councils are evidently awake to their responsibility in the matter and are striving either by the establishment of day nurseries as in Barrhead or of milk depôts as in Glasgow to diminish the mortality. The International Conference on Infantile Mortality which is shortly to be held in Paris should be helpful to those who are interested in finding a solution of this problem.

Bequests to Glasgow Infirmaries.

The late Mr. Robert Glen of Glasgow, who at the time of his death was a member of the board of the Western Infirmary, has left to that institution the sum of £1000 free of legacy duty and a similar sum to the Royal Infirmary.

Typhus Fever in Glasgow.

Dr. A. K. Chalmers, medical officer of health of Glasgow, states that for the first half of the current year there is a slight increase in the number of cases of typhus fever reported in comparison with the corresponding period of last year. The persistence with which typhus fever has recurred in several parts of the city during the present year is only consistent with its continued presence in unrecognised forms, so medical men are requested to make a careful scrutiny of febrile cases unaccompanied by any obvious explanation.

Oct. 3rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Commencement of the Medical Session in Dublin.

THE work of the new medical session commenced at the medical schools and clinical hospitals of Dublin on Oct. 2nd. The custom of inaugurating the course of lectures at the hospitals by a formal address was formerly universal but has now fallen much into disuse. Sir John William Moore has, however, announced that he will deliver the inaugural address at the Meath Hospital on Oct. 9th, while Dr. M. F. Cox will follow his example at St. Vincent's Hospital on the 10th.

International Congress on Tuberculosis.

At a recent meeting of the committee of the Dublin branch of the National Association for the Prevention of Tuberculosis Professor E. J. McWeeney was appointed to represent the branch at the Congress.

The Report of the President of Queen's College, Belfast.

From the report of the president of Queen's College, Belfast, for the year 1904–05 501 students were in attendance, which is an increase, and it is satisfactory to note that this increase is not confined to any one of the departments but has characterised all the Faculties. The largest increase is to be seen in the number of medical students.

Attention is drawn to the fact that the college suffers from two causes and has so suffered for many years. The university arrangements of the country to which the college is linked are marred by serious defects, which have been frequently pointed out, but are not yet remedied, and, in addition, nothwithstanding all that has been done for the college in recent years, it still needs much larger pecuniary support.

The Health of Belfast.

From the report presented to the monthly meeting of the corporation of the city of Belfast on Oct. 2nd it appears that the death-rate during September was 16·9, contrasted with 18·0 in September of last year, and last week it was only 13·7, while the death-rate from zymotic diseases was 0·9, the lowest ever recorded in Belfast. Between August 20th and Sept. 16th 238 cases of zymotic disease have been notified—namely, 90 of enteric fever, 62 of scarlet fever, 57 of simple continued fever, 1 of "fever," 15 of erysipelas, 11 of diphtheria, and 1 each of puerperal fever and membranous croup. There were 66 deaths from zymotic disease, 72 from phthisis, and 30 from respiratory complaints. A deputation from the citizens' committee appeared before the corporation in reference to the conditions of the tramway contract and one of the members having pointed out the way in which the men employed by the corporation did nothing the Lord Mayor pluckily admitted that he was afraid their men did not work as well as contractors' men. "There was no use," he said, "beating about the bush" and that was the reason the corporation gave out all the work (to contract) they could.

Oct. 3rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Dangerous Results of Injecting Paraffin under the Skin of the Nose.

AT a meeting of the Medical Society of Nancy M. Rohmer described the case of a woman who suffered from well-marked "saddle nose" due to syphilitic disease of the nasal bones. In the hope of improving her appearance a medical man injected paraffin subcutaneously on five occasions at intervals of two or three weeks. At the last injection severe pain was suddenly felt in the left eye which immediately became blind. The injections of paraffin, moreover, had not only not lessened the nasal deformity but had even aggravated it by giving rise to prominences which invaded the forehead and the cheeks on each side of the nose. Continuing his remarks, M. Rohmer explained the method of performing these injections, but he devoted most attention to the ocular or intra-orbital lesions which had occurred in five or six cases in circumstances analogous to those now described. These lesions had in every instance followed the injection of paraffin or vaseline under the skin of the nose or face and were commonly said to consist in embolism of the central artery of the retina. The injections, however, did not cause embolism of this artery, and in like manner injections of vaseline-paraffin into the breast did not cause arterial embolism although they had sometimes been followed by venous embolism in the lungs. The explanation of the effects produced in the eyes was that a small quantity of the injected material had entered one of the venous branches which anastomose freely on the nose, the forehead, the eyelids, and the cheeks; these venous branches emptied themselves into the angular vein and the foreign body would be carried by the blood stream into the orbital cavity which the angular vein traversed on its way to the cavernous sinus. Now in its passage through the orbit the angular vein has for its continuation the ophthalmic vein which receives the central vein of the retina, and it was easy to understand that if the ophthalmic vein was obstructed by a morsel of paraffin on the proximal side of the central vein of the retina the latter would be obstructed also and would be thrombosed without any production of arterial embolism. This view was further supported by the ophthalmoscopic appearances of the fundus oculi in the patient seen by M. Rohmer, for the veins were greatly dilated and in their course droplets of blood were to be seen, indicating rupture in certain places.

The Origin of Lactose.

At a meeting of the Academy of Sciences held on Sept. 11th M. Porcher said that in his opinion all forms of hyperglycæmia in milch animals tended to the production not of glycosuria but of lactosuria. In order to prove this he gave injections of aseptic hypertonic or isotonic solutions of glucose to cows, bitches, and goats in full milk, the injections being made under the skin, into the peritoneum, or through the teats into the udder. By the results of these experiments he was led to the following conclusions. The activity of a mammary gland being given, a similar gland seemed to be capable (1) of elaborating from the normal glucose of the blood the lactose which passed in solution into the milk; and (2) of in like manner transforming into this latter variety of sugar an excess of glucose which was presented to it either experimentally or pathologically. But, assuming that the glandular activity remained constant, if more glucose was supplied than it was capable of converting into milk sugar mammary insufficiency was the result. There was also mammary insufficiency when the activity of the gland was impaired without the quantity of glucose being increased. From this it was evident that all forms of hyperglycæmia, whether produced experimentally, physiologically, or pathologically, occurring in favourable circumstances in animals the mammary glands of which were in full activity, gave rise to lactosuria, provided always that the hyperglycæmia was not excessive.

Kidney Disease and Vibratory Movements of the Eyelids.

At a meeting of the Academy of Sciences held on Sept. 18th M. Ullmann said that vibratory winking was a truly pathognomonic sign of kidney disease. This symptom showed itself especially when the disease was in an early stage, and it might therefore be of great value by indicating the existence of a lesion which had not yet become serious and might even be limited to simple irritation. Vibratory winking, according to M. Ullmann, showed itself by preference in the upper eyelids, generally in only one of them, and seldom in the lower lids or in the external canthus. The winking might continue for a period varying from a few minutes to half an hour or more. M. Ullmann considered that the phenomenon of vibratory winking was due to an auto-intoxication which took effect on the visual organs and principally on the nervous filaments arising from the fifth pair and from the facial nerve. It might be mentioned in support of this hypothesis that vibratory winking was in the majority of cases associated with myosis.

The Creation of Bureaux d'Hygiène.

The President of the French Republic has just issued a decree authorising the creation of public health departments (*bureaux d'hygiène*). It is hereby provided that in the districts (*communes*) in which such departments have to be formed the municipal council shall hold a meeting to decide on the number of officials to be appointed, their remuneration, the site of the premises required for the purpose, and the measures to be taken for meeting the outlay. Furthermore, the municipal council shall either establish a public health laboratory or shall make arrangements for having the laboratory work of its district handed over to some municipal, public, or private laboratory. The mayor shall select the principal officer of the department from among persons whose competence is recognised on the ground of their qualifications (*titres*) by the Comité Consultatif d'Hygiène Publique de France. Principal officers in charge of existing health departments are not required to submit their qualifications to this committee. The subordinate officials may hold their appointments simultaneously with other municipal posts. Reports of the meetings of the municipal councils will be sent by the prefects to the conseil d'hygiène. If in consequence of statements made to him by the departmental conseil d'hygiène the prefect considers that the steps taken by the municipal council are inadequate he shall invite that council to reconsider them and he is, moreover, authorised to interfere in case of neglect of duty or extravagance on the part of the municipal council. The expenses of a public health department are divided into two classes. Those which are concerned with disinfection in towns of 20,000 inhabitants and upwards are defrayed by the towns and by the State. The expenses which are incurred for other purposes under the law of Feb. 15th, 1902, are shared between the towns, the departments, and the State. Expenses charged under both the above headings are distributed between the two classes proportionately to the amount of the other expenses charged therein. Permission may be given for several

districts to combine for the purpose of establishing one department of public health. The provisions of this decree are applicable to the city of Paris and to the other *communes* of the department of the Seine.

The International Congress on Tuberculosis.

This Congress was formally opened by the President of the Republic in the Grand Palais at 2 P.M. on Oct. 2nd. The meeting was entirely devoted to the speeches delivered by the official representatives of the various countries taking part in the Congress. M. Loubet was on the platform and around him were the German, British, Spanish, Italian, and American Ambassadors, the President of the Congress, the venerable Professor Hérard, several Ministers, the general secretary of the congress, Dr. Letulle, the delegates of foreign Governments, and the members of the French committee. Professor Hérard, who was the first speaker, referred to the work of the preceding congresses on tuberculosis held in 1867, 1888, 1891, 1893, and 1898, after which he reviewed the work of the conferences held in Berlin, Naples, London, and Copenhagen. In the next place he described the leading features of the measures adopted in Germany which has multiplied its sanatoriums, and in Great Britain which has considerably diminished its mortality from tuberculosis by improving the conditions under which the lower classes live. The foreign delegates then spoke—namely, Surgeon-General Dr. Schjerning (Germany), Dr. Theodore Williams (Great Britain), Professor von Schrötter (Austria), M. Béco (Belgium), M. Zolotovitz (Bulgaria), Dr. Espina y Capo (Spain), Dr. Beyer (United States of America), Dr. Hutyra (Hungary), Professor Baccelli (Italy), Dr. Davel (Argentine Republic), Professor Babès (Roumania), Dr. Raptchenski (Russia), Dr. Hansen (Sweden), and Dr. Schmidt (Switzerland); a representative of China also spoke. The general secretary then gave a sketch of the work accomplished by the organising committee since 1901, after which he described the subdivision of the Congress into sections as mentioned in THE LANCET of Sept. 30th, p. 1000. Finally, the President of the Republic rose and expressed his thanks to the foreign Governments which had accepted the invitation given by France and had sent official representatives. He then said that although the statistics on the subject were not entirely reassuring he was nevertheless disposed to take a cheerful view and to believe in the ultimate success of the combined efforts which all nations were making against tuberculosis. In conclusion turning to Professor Hérard, who has entered on his eighty-sixth year, the President congratulated him on his green old age and expressed the hope that he would be enjoying as good health and strength when the next congress came to be held. Before leaving the Grand Palais the President walked through the galleries on the ground floor occupied by the Tuberculosis Exhibition.

The Surgical Congress.

The French Surgical Association opened its eighteenth Congress on Oct. 2nd in the large amphitheatre of the Faculty of Medicine under the presidency of Dr Chauvet, *médecin inspecteur* of the army. The members who were present included the majority of the principal clinical teachers in the great hospitals of Paris and the provinces. After the delivery of an address by the President and the reading of the general secretary's report the Congress proceeded to discuss the first subject on the official programme—namely, Conservative Surgery in Injuries of the Limbs. Dr. Nimier, Dr. Le Dentu, Dr. Monod, and Dr. Kirmisson of Paris were the principal speakers. On Oct. 3rd, at the Hotel des Sociétés Savantes, M. Doyen gave the members of the Congress a demonstration of microscopic preparations not previously exhibited bearing on the subject of the etiology of cancer.

Oct. 3rd.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

The Turkish Public Baths.

ONE of the greatest and most dangerous sources of dissemination of infectious diseases in Turkey are the public baths. The latter are just as numerous in Constantinople and in the Ottoman Empire generally as the mosques. A Turk cannot live without his bath. It is a part of his religion to visit it frequently at certain regular intervals. To be a "hamamji," the possessor of a public bath, is rather an honourable business with the Mussulman. The Turk spends in it his best idle hours of a most exquisite *dolce far niente*. He loves his "hamam" almost as much as his harem. It is not an exaggeration to say that the Turkish women spend half of their life in baths. The fair sex enjoy with the Turks a life of perfect idleness. Taking no part whatever in public or social affairs a Turkish woman spends her existence in harem and in "hamams" indulging in the smoking of cigarettes or of the traditional "narghileh," in making her toilet, and in gossiping. When a Turkish woman goes to take her bath she makes very extensive preparations. She invites her best friends to share the bliss of the "hamam," takes food with her, and remains in the bath the whole day. The rich Osmanlis have their own baths which are very frequently equipped in a most luxurious manner. The numerous public "hamams," however, accessible to all and everybody, and being without any medical supervision as well as without any sanitary or hygienic arrangements, are very often the cause of the spreading of most loathsome skin diseases and of every variety of internal contagious affections. In a public bath in Turkey there are no separate compartments. All bathe in one room and frequently use hot or cold water from the same basin. One can easily understand, therefore, why these "hamams" are such a dreaded source of danger to public health. The Turkish Government, recognising the fact (somewhat too late, but this is always the way of acting of the easy going Osmanli), ordered lately that each Turkish bath should be henceforth inspected, at regular intervals, by a sanitary commission so as to see that the "hamams" are disinfected and possess necessary hygienic arrangements.

The Sacred Caravans.

Another not less formidable source of dissemination of disease are the so-called sacred caravans of the Moslems. The pilgrimage to Mecca and Medina and the returning homewards of the faithful Islam worshippers are always accompanied with the spread of one epidemic or another. The island Camaran in the Red Sea, the cities Ebou Saoud and Vasset, as well as the seaport Jaffa, which lie *en route* to the holy places of Mahomedanism, are some of the chief centres from which such spread of contagion takes place. These places possess lazarets. Their medical staff, however, is very deficient and the means granted for their upkeep are scanty. Lately the Turkish Government has taken a forward movement to remedy matters. The management of the lazaret at Camaran has been intrusted to an able medical officer of health, Dr. Delpio. He has been sent there at the head of a special sanitary commission with powers to take every possible precautionary measure in order to prevent dissemination of epidemics by the pilgrims. 20,000 Turkish liras have been asked for the purpose of introducing at Camaran the necessary sanitary reforms. The above mentioned commission will inquire into the matter and will also visit and inspect all the lazaret stations on the Red Sea.

A Small-pox Antitoxin.

The distinguished Turkish physician, Dr. Rifaat Hussameddine Pasha, professor at the medical school of Constantinople and director of the small-pox establishment, has communicated to the medical faculty that he has discovered an antitoxic serum against small-pox. A special commission, consisting of Professor Hamdi Pasha, Professor Aristidi Pasha, Professor Djelal Ismail Pasha, and Professor Hamdi Bey, has been appointed to test the new serum and to report the results of the testing.

Turkish Druggists and Dispensers.

The Turkish newspaper *Hakikat*, published in Constantinople, notices with expressions of great satisfaction that the number of druggists and dispensers has considerably increased of late. The druggists' shops established by Osmanlis in the Turkish metropolis amount at present to 29. In former days, remarks the Turkish journal, Moslems were quite averse to the profession of a pharmacist. The reason of that aversion lay in the rather interesting fact of the Mussulman having, generally speaking, little or no faith in the healing capacity of drugs. The Orientals, as is well known, credit talismans, prayers, and charms of every description as possessing more healing power than any drugs or any medical man however skilful. *Hakikat* says that this state of affairs is beginning

to give way to a more reasonable condition. Medical men are now more frequently called for by Moslems than they were 10 or 15 years ago. The number of Turkish physicians has also increased and Mussulman pharmacists multiply more and more from day to day.

New Medical Establishments.

Several medical establishments are to be erected at different places of the capital as well as in the provinces. Thus a bacteriological laboratory will be built in connexion with the veterinary school of Constantinople at the cost of 300,000 piastres. An institute for hydrophobia is to be erected at Erzindjan. At Ourfa a hospital is being constructed for men and women. This hospital is to bear the name of "Hamidiéh" in honour of the Sultan who contributed a large sum for its construction. Another Hamidiéh hospital will be erected at Tripoli in Africa at the express desire of Abdul Hamid.

Sept. 25th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Typhoid Fever grouped with the Contagious Diseases.

THE health authorities of Philadelphia, following the decision of the experts at Washington, D.C., have added typhoid fever to the list of contagious diseases. While all of the precautions usual in cases of contagious disease will not be enforced it is hoped that the new ruling will help to impress the laity with the necessity for care in managing patients suffering from enteric fever.

A Woman Professor of Anatomy.

The brief list of women who have become prominent in this subject has been increased by the appointment of Miss Florence R. Sabin as associate professor of anatomy in the Johns Hopkins University.

American Tuberculosis Exhibition.

Everything promises well for the success of the American Tuberculosis Exhibition which is to be held in New York from Nov. 27th to Dec. 9th. In addition to exhibits from sanatoriums and anti-tuberculosis societies in all parts of this country the committee in charge expects to receive a large part of the material from the French Exposition to be held in Paris in October under the auspices of the International Tuberculosis Congress. Public lectures on tuberculosis have been planned in connexion with other features of the exhibition designed for the instruction of the laity.

Vegetable Juices in Tuberculosis.

The physicians in charge of the dispensary for consumptives of the New York Post-graduate Hospital have been following with great success a plan of treatment for early cases of pulmonary tuberculosis among the poor in which hyperalimentation and fresh air are the most important features. The fact that some cases apparently belonging to the curable class proved refractory to this treatment led to further study of the effects of different articles of food. It was then suggested that the mixed juices of all the ordinary vegetables, including also apples and pine-apples, might be a valuable addition to the dietary through some stimulation of the metabolic processes whereby more complete assimilation of the other food-stuffs would be secured. It is stated that very good results have followed the administration of this raw vegetable juice, but the observations have not yet been carried on for a period long enough to permit of a fair estimate of the value of the innovation.

Alcohol in Patent Medicines.

Much attention has lately been directed to the large sales of certain patent medicines which practically depend for their therapeutic effects only on the large amount of alcohol they contain. Some of these have been found to contain as much as 45 per cent. of alcohol, while very many have over 25 per cent. These preparations are much in demand in prohibition communities and it has been estimated that over 300,000 bottles of one extensively advertised nostrum with a high alcohol percentage were sold in one year in the prohibition districts of a single New England State. A decision just rendered by the Commissioner of Internal Revenue is directed at this abuse and should help to check it. After Dec. 1st, 1905, these bogus remedies must be handled as liquors, their makers must pay the usual tax imposed on manufacturers of spirits, and druggists who sell them must take out a retail liquor dealer's licence. The ruling authorises the internal revenue collectors to impose the special tax on manufacturers of every compound composed of distilled spirits, even though drugs are declared to have been added thereto, "when their presence is not discoverable by chemical analysis or it is found that the quantity of drugs in the preparation is so small as to have no appreciable effect upon the liquor. The same ruling applies to every alcoholic compound labeled as a remedy for diseases and containing in addition to distilled spirits only substances or ingredients which, however large their quantity, are not of a character to impart any medicinal quality to the compound."

Cholera in Manila.

25 deaths from this disease in two weeks have been reported among the citizens of Manila and the soldiers at Camp McKinley and the total number of cases is over 50.

Dengue in Florida.

Dengue has appeared in several of the cities of Florida and the physicians of the State have been warned to that effect by the Health Commissioner. The disease appeared first in Key West but cases have also occurred in Port Tampa and Tampa. No deaths have been reported.

Yellow Fever.

The New Orleans epidemic is rapidly losing its gravity and on one day recently, for the first time since the beginning of the outbreak seven weeks previously, no deaths were reported. The total number of cases is now something over 2500 and the deaths are about 340. Dr. Mims, chemist of the New Orleans board of health, has discovered a new and very effective culicicide, said to be composed of equal parts of camphor and carbolic acid, and this is being used by the disinfectors of the United States Marine Hospital Service. It is believed that two searchers for the causative agent of yellow fever, Dr. P. E. Achinard and Dr. John J. Achinard of New Orleans, have been successful and that it is a minute protozoon somewhat resembling the malarial organism. They have made no public announcement of their discovery, however, so that the correctness of this view is still a matter of surmise. The yellow fever statistics from Panama also show improvement. During June there were 72 cases and 17 deaths, during July 29 cases and 11 deaths, during August 30 cases and 7 deaths, and on Sept. 1st there was reported to be but one case under treatment on the Isthmus.

Japanese Military Surgery.

At a banquet of the American Association of Obstetricians and Gynecologists in New York on Sept. 20th Surgeon-General Suzuki of the Imperial Japanese Navy gave an interesting account of the practice of Japanese surgeons during the late war with Russia. He states that when the question of war was first agitated he began to make preparations by requiring from the localities from which the surgeons were to be drawn two kinds of men—viz., those who were familiar with the antiseptic method and those who were conservative. By "conservative" he meant those surgeons who would not too quickly relieve the wounded of their arms and legs by amputation. No carbolic acid or other antiseptic was used in the wounds, but their treatment was limited to the use of sterilised water and sterilised cotton. In most instances the wound was not probed for a bullet or the fragment of a shell. The edges of the wound were cleansed with the sterilised cotton and then bound up with the sterilised cotton covering the wound. No time was lost on the battle-field in performing hazardous or complicated operations; the wound was cleansed with the sterilised cotton and in most instances it healed with remarkable celerity. In one hospital but 32 patients were lost out of 680 admitted. Commenting on the fact that the Japanese surgeons did not, as a rule, probe wounds, Surgeon-General Suzuki stated that they had learned that bullets and shells were aseptic; therefore it was better to cleanse and to close the wound at once where these foreign bodies were lodged and only to operate later when there was evidence that the bullet or the fragment of shell was a source of irritation. As a matter of fact, a subsequent operation was seldom required. When, however, cloth was lodged in the wound an attempt was made to remove it, for such wounds proved septic. Surgeon-General Suzuki modestly disclaimed all merit for the success of Japanese surgery during the late war and attributed it to the surgeons in the field.

Sept. 25th

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At the examinations held in September the following candidates passed in the subjects indicated:—

Surgery.—A. G. C. Findlay (Sections I. and II.), University College Hospital; J. H. K. Sykes (Sections I. and II.), Leeds; and R. H. Terry (Section II.), Guy's Hospital.

Medicine.—M. L. A. Bolleau (Sections I. and II.), Royal Free Hospital; J. M. Lynah, Cork; and R. J. S. Verity, Charing Cross Hospital.

Forensic Medicine.—M. L. A. Bolleau, Royal Free Hospital; C. G. Grey, St. Bartholomew's Hospital; T. R. St. Johnston, Birmingham; and S. H. Sugden, Manchester.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery: A. G. C. Findlay, T. R. St. Johnston, J. H. K. Sykes, and R. H. Terry.

UNIVERSITY OF CAMBRIDGE.—The following having satisfied the examiners in tropical medicine and hygiene are entitled to the University diploma:—

P. W. Bassett-Smith, H. A. Foy, W. M. G. Guinness, J. T. C. Johnson, R. M. Kalapesi, D. Mackinnon, and A. R. Wellington.

Mr. E. A. Beck, Master of Trinity Hall, was admitted to the office of Vice-Chancellor on Sept. 30th and delivered an energetic and unconventional address on the events of the past academical year.—Dr. D. MacAlister was at the same Congregation appointed assessor to the Regius Professor of Physic.

ST. MARY'S HOSPITAL MEDICAL SCHOOL.—At the examination for entrance scholarships held in September the following awards were made:—Open scholarships in natural science: Combined scholarships of £145 and £78 15*s.* were divided equally between T. Hare and D. Scurlock, and J. Menzies and A. G. H. Lovell each took a scholarship of £52 10*s.* University scholarships of 60 guineas each: A. Hamilton, Christ College, Cambridge, and R. Knowles, Downing College, Cambridge.

CHARING CROSS HOSPITAL MEDICAL SCHOOL.—The following entrance scholarships have been awarded: The Epsom scholarship (100 guineas), to Mr. E. G. H. Cowen; the Livingstone scholarship (100 guineas), to Mr. N. H. Harrison; the Huxley scholarship (55 guineas), to Mr. M. A. Farr; Universities scholarships (each 72 guineas), to Mr. F. S. Poole and Mr. D. A. Powell. An entrance scholarship of 40 guineas has also been awarded to Mr. M. B. Bayley and Universities exhibitions of 36 guineas each to Mr. A. V. Poyser and Mr. J. F. Hornsey.

UNIVERSITY COLLEGE, LONDON (UNIVERSITY OF LONDON).—The entrance scholarships and exhibitions in the Faculty of Medicine have been awarded as follows: Bucknill Scholarship of £30 for four years, E. A. E. Rigg, Victoria College, Wellington, New Zealand; first exhibition of 60 guineas, C. E. Shattock, University College, London; second exhibition of 60 guineas, C. J. Rogerson, Brighton Grammar School; first exhibition of 80 guineas, F. J. F. Barrington, King Edward VII.'s Grammar School, Lynn; a moiety of the second exhibition of 80 guineas amounting to 40 guineas, J. R. C. Canney, Christ's College, Cambridge; and a moiety of the second exhibition of 80 guineas amounting to 40 guineas, J. Lewis, University College, Cardiff.

GUY'S HOSPITAL MEDICAL SCHOOL.—The following entrance scholarships and certificates have been awarded:—Senior Science Scholarship for University students: £50, Mr. C. G. Douglas, B.A., Magdalen College, Oxford; certificate, Mr. H. G. Chapple, B.A., St. John's College, Cambridge. Junior Science Scholarships: £150, Mr. M. A. E. Duvivier, Guy's Hospital Medical School; £60, Mr. T. D. M. Stout, Guy's Hospital Medical School, Preliminary Scientific M.B. Class, and Mr. A. Neville Cox, Derby School (equal, £30 each). Entrance Scholarships in Arts: £100, Mr. H. L. Hopkins, Owen's School, Islington; £50, Mr. A. H. Todd, Sherborne School. Guy's Hospital Dental School:—Entrance Scholarship in Dental Mechanics: £20, Mr. C. J. Archer and Mr. W. E. Guilding (equal, £10 each).

THE DAIRY SHOW AT THE AGRICULTURAL HALL, ISLINGTON.—The Dairy Show which opened at the Agricultural Hall, Islington, on Oct. 3rd, had a larger number of entries than ever before. The colonial element was very conspicuous and was chiefly responsible for the increase of entries. Canada, Australia, and New Zealand have all contributed largely. We hope to have occasion to discuss the show from a medical standpoint in a later issue.

ROYAL DENTAL HOSPITAL AND LONDON SCHOOL OF DENTAL SURGERY.—The entrance scholarship of £20 has been awarded to Mr. Wilton Thew.

BORIC ACID IN MILK.—At Exeter, on Sept. 29th, a dairyman was summoned for selling milk containing boric acid. The city analyst stated that the milk contained six and a half grains of the acid to the pint. The magistrates ordered the defendant to pay the costs of the case. The city authorities of Exeter have recently issued a circular warning milk vendors that they are liable to prosecution for adding boric acid to milk.

ELECTRICAL EXHIBITION AT OLYMPIA.—This exhibition of electrical inventions and appliances for all purposes was opened at Olympia, London, on Sept. 25th and is to remain open till Oct. 21st. At Stand No. 86 there is an ingenious instrument shown by the Electro-Medical Supply Company and named the "Universal Apparatus for Electro-therapy." This is a useful apparatus designed to allow of the current from electric light mains to be conveniently and safely used for electro-therapeutical purposes; it is in the form of a cabinet containing all the necessary appliances for faradisation, galvanism, electrolysis, illumination of surgical lamps, rotary converters for generating three-phase and sinusoidal current, cautery transformer, and a flexible shaft for operating surgical instruments and apparatus for vibratory massage. The regulating switches are placed in front of the cabinet and each one is of the rotary type fitted with scale and indicator. Care has been taken to provide each separate set of apparatus with a main switch and fuse. The cabinet is built of white marble and the complete apparatus is mounted on a white enamelled iron stand fitted with rubber-tyred wheels; the sledge foils for the three-phase and sinusoidal current treatment are mounted separately on a marble switchboard for fixing to the wall, each coil being provided with a rack and pinion control to match the switches fitted on the cabinet, and the important point has not been forgotten to arrange so that the instruments and the motor may be wound to suit any voltage. At Stand No. 105 the Lahmeyer Electric Company has on show an ozoniser for sterilising water by means of ozone. The apparatus can be fitted to the ordinary house lighting mains and water taps. At Stand No. 191 the Ozonair Company displays in working order an ozonising installation. In connexion with this exhibit the company quotes from the report of Dr. Ohlmuller to the Imperial German Sanitary Board the following passage: Two litres of ozonised air killed the bacilli which exist in pus and, on inoculation of this ozonised pus, no suppuration followed. One advantage which this system presents is that the construction is so simple that it requires no engineer to start an installation, a few written instructions being quite sufficient. At Stand No. 193 Messrs. Keith and Blackman have on view an apparatus which they call the electric table humidifier or liquid disperser. By the aid of this humidifier air washed and moistened or beneficially charged with medicinal vapours can be supplied in the sick room, and the degree of humidity or saturation may be regulated to a nicety. The Marconi Wireless Telegraph Company contributes towards the exhibition at Stand No. 243 a complete installation of x ray apparatus suitable for a small hospital or infirmary where economy of space is essential. At many of the stalls various electric cooking appliances are shown and undoubtedly the use of electricity insures an amount of cleanliness in the preparation of food. On Stand No. 48 a convenient milk warmer made by the British Prometheus Company attracted considerable notice, the article being suitable for use in sick rooms or nurseries and economical in its working. At the same stand is shown a most satisfactory method of sterilising milk by means of a water-jacketed utensil. In a stand close by the *café chantant* the Dowsing Radiant Heat Company exhibits an electric sun bath which is named the "Solarium." It is claimed for this bath that it combines the advantages and none of the disadvantages of the cabinet baths now used. The skin reacts much more readily to light and heat than to heat alone and as there is no combustion in the cabinet there are no objectionable products. A good feature in this electric light bath is that it can be folded away into a small space. Another exhibit by the same company

is the electric light and heat disinfector, consisting of a large metal chamber fitted with electric lighting and heating lamps. In the centre of this chamber is a rotating cage into which bedding and other articles can be placed for disinfection. The temperature employed is from 300° to 350° F. The company claim that the system of employing both light and heat in the process of disinfection is an important scientific advance. The Crompton Company has on view at Stands Nos. 76 and 85 some efficient fans for ventilating purposes. The exhibition is well worth a visit but it is unfortunate that the want of method in the arrangement of the show entails some loss of time to anyone desirous of inspecting any particular class of electrical apparatus.

ESTABLISHMENT OF A NURSES' INSTITUTE.—The Press Association learns that Mrs. Lewis-Hill (better known in the philanthropic world as Mrs. Ada Lewis) is establishing an institute for supplying daily visiting nurses for the poor of the middle classes who cannot afford the cost of a resident nurse and suffer accordingly for want of attention, they not being eligible for an absolutely charitable institution. In order to prevent abuse of the scheme and to preserve the independence of the patients a nominal charge of a few shillings a week will be paid by those availing themselves of its benefits. The Ada Lewis nurses will be available solely for the class above mentioned, the very poor being already supplied by district nurses and hospitals. The first of the Ada Lewis nurses' institutes will be opened at 62, Oxford-terrace, London, W., on Oct. 26th and should it meet with the success expected in filling a great need the work will be extended in other districts. A *sine quâ non* of the scheme is that the nurses will only attend cases under the supervision of the patient's own medical advisers. The work of the Ada Lewis nurses will, it is hoped, also be of considerable benefit by relieving the congested state of the hospitals which are already overcrowded with minor cases to the exclusion of more serious ones requiring treatment.

FAZAKERLEY FEVER PAVILIONS: LIVERPOOL CIVIC TOUR.—The annual inspection of the civic hospitals by the port sanitary and hospitals committee took place on Sept. 14th. Those who took part in the inspection included the Lord Mayor, the Lord Mayor-elect, Mr. J. Utting (the chairman of the committee), Dr. E. W. Hope (the medical officer of health), Dr. A. A. Mussen (the assistant medical officer of health), and others. Naturally, most time was devoted to an inspection of the array of buildings ready for furnishing on the Fazakerley estate which contains 115 acres. Provision has been made, to begin with, for 300 patients suffering from infectious diseases or in the convalescent stages. Liverpool will possess at Fazakerley the most complete hospital of the class in the kingdom and judging by the statistics quoted by Mr. Utting the enterprise should prove, by reducing disease and mortality, a profitable investment on the part of the municipality. The Fazakerley Hospital will be formally opened shortly. After inspecting the other five city hospitals the Lord Mayor and the members of the committee and others sat down to a *déjeuner* at which Mr. Utting presided. The toast of "The King" having been duly honoured, the Lord Mayor proposed the toast of "The City Hospitals," to which Mr. Utting replied. He said that the committee had a dual work and dual institutions, it being charged with the duty of protecting the port from disease borne to the Mersey from foreign countries and with the task of minimising the infectious diseases which arose in the city or were brought there from other inland towns or villages. Without causing alarm he might remark that at present the port of Liverpool had to guard against the importation of both plague and cholera. The warning of Hamburg could not be forgotten as regarded cholera. The gentlemen who had followed his guidance that day would have seen that the city hospitals had been maintained at the highest degree of efficiency during the last year. It was the opinion of Sir Henry Burdett that the public should be given every facility for seeing what they were getting in these institutions for their money. The city hospitals were treating about 5000 cases yearly, each case remaining in hospital for an average period of eight weeks. Consider what that meant to the patients and their homes. In private houses each infectious patient formed a focus of disease and a heavy care to his or her nurses. To show the effect of the hospitals in the reduction of infectious disease he took the comparative number of deaths from scarlet fever and typhus fever as illustrative. In the ten years (1876–85) before the establishment of these hospitals in Liverpool the deaths from scarlet fever were, for the whole decade, 76 per 100,000. In the first ten years of the hospitals these deaths fell from 76 to 49 per 100,000. In the ten years just closing they further fell to 27 per 100,000. Taking typhus fever the rates for the same three decades were 43·7 and 3·5, a still more striking decrease. On the other hand, measles, which was not a disease compulsorily notifiable and therefore not invariably isolated or skilfully treated, accounted for more deaths last year than scarlet fever, typhoid fever, typhus fever, diphtheria, and small-pox combined. This fatality, in his opinion, was due to lack of isolation. Dr. Hope, in reply to the toast of "The Officials," said that the management and staffs of the hospitals carried out their duties in an admirable manner and pointed out that the increase of communication between the different people of the globe led to new problems of disease. The hospitals, in addition to their advantages already described, were of inestimable value as schools for medical instruction.

TUBERCULOSIS AND OTHER INFECTIOUS DISEASES.—The Brazilian Government has decided to offer a prize of £400,000 for international competition for an efficient preventive and remedy for tuberculosis, cancer, and what they call other contagious diseases. An examining commission will be nominated by the Minister of the Interior to be composed of two members of the Rio de Janeiro Medical Academy and of one each from representative bodies in London, Paris, Berlin, and Vienna. After the prize has been adjudicated two years of successful treatment must elapse before it is handed over.

WORKHOUSE EXTENSION AT BRISTOL.—At a specially summoned meeting of the Bristol board of guardians held on Sept. 29th it was decided by a majority of two votes to adopt an extension scheme involving an expenditure of £140,100. By this scheme the workhouse at Eastville is to be converted into an infirmary for 1070 patients. The aged, infirm, and able-bodied inmates are to be accommodated in the present main building at Stapleton, in which there is room for 875, and the imbeciles and epileptics, numbering 755, are to occupy the present infirmary at Stapleton. New blocks are to be erected and Southmead workhouse is to be utilised for 150 aged and infirm. This will give accommodation for 2850 patients.

CHESTERFIELD LECTURES.—These lectures' founded in 1895 at St. John's Hospital for Diseases of the Skin, Leicester-square, W.C., in connexion with a silver medal presented by the Earl of Chesterfield to promote the study of dermatology (and which is open for competition to those who have attended three-fourths of the lectures), are free to medical practitioners on presenting their cards and to medical students who desire to attend regularly, and will be resumed in the new building, 49, Leicester-square, on Thursday evening, Oct. 5th, at 6 P.M. The Chesterfield lecturer, Dr. Morgan Dockrell, will give his opening lecture on the Simplification of Dermatology. After each lecture demonstrations will be given on special cases, followed by clinical instruction up to 8 o'clock on patients presenting themselves in the out-patient department. The lectures are essentially practical and deal fully with diagnosis and treatment, being illustrated by large diagrams, clinical and microscopical, specially prepared for each lecture.

THE QUARTERLY JOURNAL OF TROPICAL VETERINARY SCIENCE.—For many years past it has been felt that there existed a distinct want for a scientific publication dealing with veterinary pathology in the tropics. With a view to fill this gap in veterinary literature certain officers of the Indian Civil Veterinary Department have undertaken the publication of a quarterly periodical to be called the *Journal of Tropical Veterinary Science*. Though emanating from India, it is hoped that its sphere of utility will not be limited to that country. Each number will, as far as possible, consist of original articles of scientific interest, with the exception of pages given up to reviews and extracts from current ...rature such as may appear to demand attention. Nothing of a personal or political nature will appear in the journal. Amongst the subjects to be dealt with in the forthcoming numbers for which arrangements have already been made will be a series of articles on the anatomy, physiology, and pathological conditions of the camel and the elephant; the intestinal and

other parasites of animals; and the biting flies and the ticks of India, together with their importance in the transmission of disease. No. 1 will be ready on Jan. 1st next. The annual subscription, including postage, will be Rs. 12-8, or 17s. 6d. Communications for the editors should be addressed to them at the Lahore Veterinary College, Punjab, India. All business letters should be sent to the publishers, Messrs. Thacker, Spink, and Co., Calcutta.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Alfred Schaper, extraordinary professor of anatomy and embryology in the University of Breslau, at the age of 42 years.—Dr. Ernst Kohlschütter, extraordinary professor of internal medicine in the University of Halle, at the age of 67 years.—Dr. Michael P. Cherinoff, professor of medicine in the University of Moscow.—Dr. Carvalho, professor of physiology in the University of Rio de Janeiro.

BOOKS, ETC., RECEIVED.

APPLETON, SIDNEY, 25, Bedford-street, Covent-garden, W.C. (D. APPLETON AND CO., New York).

The Principles and Practice of Medicine. For the Use of Students and Practitioners. By William Osler, M.D., F.R.S., Fellow of the Royal College of Physicians, London; Regius Professor of Medicine, Oxford University; Honorary Professor of Medicine, Johns Hopkins University. Sixth edition. Price 21s. net.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent-garden, W.C.

A Manual of Surgery. For Students and Practitioners. By William Rose, M.B., B.S. Lond., F.R.C.S., Emeritus Professor of Surgery in King's College, London, and formerly Senior Surgeon to King's College Hospital, &c., and Albert Carless, M.S. Lond., F.R.C.S., Professor of Surgery in King's College, and Surgeon to King's College Hospital, London, Examiner in Surgery to the Victoria University of Manchester and to the Universities of Liverpool and Leeds, &c. Sixth edition. Price, in cloth, 21s.; in flexible leather, gilt, 25s. net.

CASSELL AND COMPANY, LIMITED, London, Paris, New York, and Melbourne.

A Manual of Chemistry. Inorganic and Organic, Covering the Synopses of the Conjoint Board and the Society of Apothecaries. By Arthur P. Luff, M.D., B.Sc. Lond., F.R.C.P., F.I.C., Physician to St. Mary's Hospital, and Lecturer on Medical Jurisprudence in the Medical School; and Frederic James M. Page, B.Sc. Lond., F.I.C., Associate of the Royal School of Mines, Lecturer on Chemistry and Physics to the London Hospital Medical College, Examiner on Chemistry and Physics to the Society of Apothecaries, London. Third edition, revised throughout. Price 7s. 6d.

Clinical Methods. A Guide to the Practical Study of Medicine. By Robert Hutchison, M.D., F.R.C.P., Assistant Physician to the London Hospital and to the Hospital for Sick Children, Great Ormond-street, and Harry Rainy, M.A., F.R.C.P. Ed., F.R.S.E., Examiner in Medicine and Clinical Medicine, St. Andrews University. Third edition, thoroughly revised. Price 10s. 6d.

Hygiene and Public Health. By B. Arthur Whitelegge, C.B., M.D., B.Sc. Lond., F.R.C.P., D.P.H., late County Medical Officer of Health for the West Riding of Yorkshire, and George Newman, M.D., D.P.H., F.R.S.E., Medical Officer of Health of the Metropolitan Borough of Finsbury. New edition, revised, enlarged, and in great part rewritten. Price 7s. 6d.

FISCHER, GUSTAV, Jena.

Einfache und Sichere Identifizierung des Typhusbazillus. Von Dr. Hans Bolt, Oberarzt beim Füsilier-Regiment von Gersdorff (Kurhessisches No. 80), z. Z. Kommandiert zum Senckenbergischen Patholog. Institut zu Frankfurt-a-M. Price M.1.

HODDER AND STOUGHTON, 27, Paternoster-row, E.C.

A World Without a Child. By Coulson Kernahan, Author of "The Face Beyond the Door," "God and the Ant," &c. Price 1s.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, E.C.

The Motel Kitchen. By Lucy H. Yates, Author of "The Profession of Cookery," &c. Price 2s. net.

SMITH, ELDER, AND CO., 15, Waterloo-place, S.W.

A Junior Course of Practical Zoology. By the late A. Milnes Marshall, M.D., D.Sc., M.A., F.R.S., Professor in the Victoria University. Beyer Professor of Zoology in Owens College, Manchester, and the late C. Herbert Hurst, Ph.D., Lecturer in the Victoria University, Demonstrator and Assistant Lecturer in Zoology in Owens College, Manchester. Sixth edition. Revised by F. W. Gamble, D.Sc., Lecturer in Zoology in the University of Manchester. Price 10s. 6d.

TAFFARD, E., 6, Rue Métivier, Bordeaux.

Le Béribéri. Monographie par le Docteur C. M. E. Dubruel, Médecin-Major de 2me Classe des Troupes Coloniales. Price Fr.4.

VIGOT FRÈRES, Place de l'École de Médecine, 23, Paris.

Le Poignet et les Accidents du Travail. Etude radiographique et clinique. Par le Docteur Destot, Chef de Laboratoire des Hôpitaux de Lyon. Price Fr.2.50.

Les Indications des Interventions Chirurgicales dans les Maladies Internes. A l'Usage des Médecins Praticiens. Par le Professeur Dr. Hermann Schlesinger, de l'Université de Vienne. Traduction française par les Docteurs L. Lichtwitz et J. Sabrazès de Bordeaux. Troisième partie. Price Fr.4.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

ANDERSON, THOMAS LYNEWOLDE, M.B., M.D. Melb., has been appointed Medical Officer under the Workers Compensation Act, West Australia.

BLANCHARD, DAVID FRANCIS, L.R.C.P. & S. Edin., L.F.P. & S. Glasg., has been appointed Medical Officer under the Workers Compensation Act, West Australia.

BOYD, ALEXANDER BROOKE, M.B., Ch.B. Oxon., has been appointed Public Vaccinator for the District of Ashburton, New Zealand.

BROCKBANK, E. M., M.D., M.R.C.P. Lond., has been appointed Honorary Assistant Physician to the Manchester Royal Infirmary.

CORNISH, CHARLES VIVIAN, M.R.C.S., L.R.C.P. Lond., has been appointed Resident Medical Officer to the Hampstead General Hospital, N.W.

EDEN, WILLIAM ANNESLEY, L.R.C.P. Lond., M.R.C.S., L.S.A., has been re-appointed Medical Officer of the First District by the St. Columb (Cornwall) Board of Guardians.

FARMER, S., M.R.C.S. Eng., L.R.C.P. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Spennymoor District of the county of Durham.

GALLAGHER, J. O., M.D., C.M. Toronto, has been appointed Clinical Assistant to the Chelsea Hospital for Women.

GRIFFIN, J. V., L.R.C.P.I., L.R.C.S.I., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Crowborough District of the county of Sussex.

HAYDON, GERALD EDGAR TOM, L.S.A., has been appointed Officer of Health of Portland Shire, East Riding, Victoria, Australia.

HAYNES, EDWARD JAMES AMBROSE, L.R.C.P. Lond., F.R.C.S. Eng., has been appointed Medical Officer under the Workers Compensation Act, West Australia.

KINNEAR, J. A., M.D., C.M. Toronto, has been appointed Clinical Assistant to the Chelsea Hospital for Women.

LAWS, C. H. E., M.B., Ch.M. Syd., has been appointed Honorary Medical Officer to the Marrickville Cottage Hospital, New South Wales, Australia.

LEICESTER, J. C. HOLDICH, M.D., B.S. Lond., F.R.C.S. Eng., Captain, I.M.S., has been appointed First Surgeon to the Presidency General Hospital, Calcutta.

MCANALLY, EDWARD A., M.R.C.S. Eng., L.R.C.P. Lond., L.S.A., has been re-appointed Medical Officer of the No. 3 District of the Hollingbourn Union, Sittingbourne.

MACKENZIE, JOHN HUGH, F.R.C.S. Edin., has been appointed Acting Officer of Health of Flinders and Kangerong Shire, West Riding, Victoria, Australia.

MCMAHON, FREDERICK DUNBAR SUTHERLAND, L.R.C.S., L.R.C.P., L.M. Edin., has been re-appointed Medical Officer for the Sixth District by the St. Columb Board of Guardians.

MELLISH, JOHN STAFFORD, L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer for the Didmarton District by the Tetbury (Gloucestershire) Board of Guardians.

MISKIN, LEONARD JOHN, M.R.C.S., L.R.C.P., M.B., B.S. Lond., has been appointed Medical Officer under the Workers Compensation Act, West Australia.

OWEN, A. D., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer to Post Office, Hampton and Hampton Hill.

WILLIAMS, DAVID ERNEST, L.M.R.C.P., L.M.R.C.S. Irel., has been appointed Medical Officer under the Workers Compensation Act, West Australia.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARMING HEATH, MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £175 per annum, with quarters, attendance, &c.

BIRMINGHAM, RUBERY HILL ASYLUM.—Assistant Medical Officer. Salary £150 per annum, with board, lodging, &c.

BODMIN, CORNWALL COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £135 per annum, rising to £155, with board, lodging, &c.

BRADFORD CORPORATION WATERWORKS.—Resident Doctor. Terms £200 per annum, with quarters.

BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's-road.—Non-resident House Surgeon for six months, renewable. Salary at rate of £75 per annum.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, rooms, and attendance.

CARMARTHEN, JOINT COUNTIES ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £150 per annum.

CATTAL, NEAR YORK, INEBRIATES' REFORMATORY.—Medical Superintendent. Salary £400 per annum, with residence, rations, coal, light, and washing.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY.—Senior House Physician and Surgeon. Salary £120 per year, with board, apartments, and laundress.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Two House Physicians (male) for six months, with board, washing, and residence. Salary at rate of £30 per annum. Also Pathologist. Salary 100 guineas per annum.

DUDLEY, THE GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £40 per annum, with residence, board, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Assistant Physician.

FULHAM INFIRMARY, St. Dunstan's-road, Hammersmith, W.—Assistant Medical Superintendent, unmarried. Salary £150 per annum, increasing to £175, with board, apartments, attendance, and washing.

HAMPSTEAD, BOROUGH OF.—Medical Officer of Health. Salary £600 per annum

HAMPSTEAD GENERAL HOSPITAL.—Two Honorary Assistant Medical Officers.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months. Honorarium £25.

HOSPITAL FOR WOMEN, Soho-square, W.—House Physician for six months. Salary £30.

HULL CITY AND COUNTY LUNATIC ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, washing, and attendance.

HULME DISPENSARY, Dale-street, Stretford-road, Manchester.—House Surgeon. Salary £150 per annum, with apartments, attendance, coal, and gas.

LANCASTER, COUNTY LUNATIC ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

LEAMINGTON, WARNEFORD HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and apartments.

LEEDS HOSPITAL FOR WOMEN AND CHILDREN.—Resident House Surgeon for six months. Salary at rate of £80 per annum, with board. Also Resident Clinical Assistant for three months. Board, residence, and washing.

LINCOLN COUNTY HOSPITAL.—Junior Male House Surgeon, unmarried, for six months. Honorarium of £25, with board, residence, and washing

LINCOLN, THE LAWN, LUNATIC HOSPITAL.—Assistant Medical Officer. Salary £100.

LONDON HOSPITAL MEDICAL COLLEGE.—Demonstrator of Biology.

LONDON HOSPITAL, Whitechapel, E.—Assistant Physician.

LONDON LOCK HOSPITAL, Soho.—House Surgeon to the Male Hospital. Salary £80 per annum, with board, lodging and washing.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—Third Honorary Anæsthetist.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY. Resident House Surgeon. Salary £80 a year, with rooms, attendance, and board.

MANCHESTER ROYAL INFIRMARY AND DISPENSARY.—Fourth Honorary Assistant Surgeon.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Assistant Physician.

MIDDLESEX HOSPITAL, W.—Assistant Surgeon.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—Assistant Physician.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Junior Resident Medical Officer. Salary £70 per annum, with board, residence, and washing.

NORTHAMPTON GENERAL HOSPITAL.—Honorary Assistant Physician.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Physician and House Surgeon for six months. Salary at rate of 50 guineas a year, with board and residence.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Assistant Resident Medical Officer for four months. Salary at rate of £50 per annum, with board, residence, and washing.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—(1) House Physician; (2) Casualty House Surgeon; (3) Second Anæsthetist; (4) Dental Surgeon; (5) House Physician (female); (6) House Surgeon (female); (7) Assistant Anæsthetist (female).

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Assistant Surgeon.

ST. THOMAS'S HOSPITAL.—Assistant Surgeon.

STOCKPORT UNION, STEPPING HILL HOSPITAL.—Resident Assistant Medical Officer. Salary £130, rising to £150, with apartments, rations, &c.

WADSLEY, NEAR SHEFFIELD, WEST RIDING ASYLUM.—Fifth Assistant Medical Officer. Salary £140, rising to £160, with board, &c.

WESTMINSTER GENERAL DISPENSARY.—Resident Medical Officer. Salary at rate of £120 per annum, with rooms, gas, coal, and attendance.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon, under the Factory and Workshop Act, at Royton in the county of Lancaster.

Births, Marriages, and Deaths.

BIRTHS.

BIGGS.—On Sept. 11th, at Brookdene House, Northcote-road, Wandsworth Common, the wife of George Nixon Biggs, M.B., B.S., of a son.

DAUBER.—On Sept. 27th, at Charles-street, Berkeley-square, W., the wife of John H. Dauber, M.B., M.R.C.P., of a son, stillborn.

MARRIAGES.

CHARNOCK SMITH—PEARSON.—On Sept. 7th, at St. Michael's, Malton, Yorks, Charles Charnock Smith, M.R.C.S., L.R.C.P., of Steyning, Sussex, to Hermione, eldest daughter of Hugh W. Pearson of Malton.

PARRETT—RAINE.—On Sept. 28th, at the Minster, Beverley, Edward Erratt Parrett, B.A., M.R.C.S., L.R.C.P., to Martha Annie Thompson Raine, of Molescroft, Beverley, Yorkshire.

SPARKS—CAREY BATES.—On Sept. 26th, at St. Peter's, Hersham, Charles Edward Sparks, M.B., B.C., B.A. Cantab., to Mabel, eldest daughter of T. B. Carey Bates, Esq., of Hersham.

DEATH.

MACSWINEY.—On Oct. 3rd, Colonel E. V. MacSwiney, A.M.S. (retired).

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

OVERCROWDING IN TRAINS.

IN THE LANCET of August 6th, 1904, while referring to this subject we made the remark that "there seems to be a general opinion abroad than when the lines of some of the chief offending railways are 'electrified' overcrowding will disappear, but it must not be forgotten that although the managers of those railways will be granting increased facilities they have stated that they expect a large access of traffic, and how far that increase of traffic will counterbalance or outweigh the new facilities remains to be seen. It is possible that the general public may be too optimistic as to the good results which will arise from 'electrification.' Judging by the complaints which have recently been sent by passengers on the electrified Metropolitan District Railway to a daily contemporary, which has denominated the discomforts experienced in travelling on that line during certain hours as "strapitis," it seems that our misgivings were justified, for now the general public are finding out that "electrification" is not a synonym for emancipation. The word "strapitis," coined to meet the occasion, is derived from the fact that the new electric coaches have a very large number of straps ranged along each side of the coach, so that those who cannot find seats may hang on to the straps. It is argued that the large number of straps supplied shows a condemnatory prescience. This sort of thing cannot go on and the railway companies concerned will have to be put on the same footing in this regard as the tramway and omnibus companies in not being permitted to carry with impunity an excess of passengers over the certified number.

MOTOR-CARS FOR MEDICAL MEN.

To the Editors of THE LANCET.

SIRS,—At the recent meeting of the British Medical Association at Leicester there was a large show of motor-cars specially designed for medical men. With the exception, I think, of one or two steam-cars all were driven by means of petrol, and there was a very general inquiry for something smaller, handier, and less noisy for use by professional men. I have had a long experience of the various types of motor vehicles and except for long distances I reject the petrol car as unsuitable for professional work on account of the dust and noise it creates and the cost of its upkeep; for some time I thought I had found everything that was desirable in a steam car; it was quiet, clean, thoroughly under control, and handy; could be at the door within seven minutes when ordered, and could climb any hill, but it required the whole attention of a skilled mechanic, the fire had a tendency to blow out in stormy weather, the cost of upkeep was considerable, and finally I one day found myself enveloped in flames from no cause that I could discover. My latest car is, I venture to think, an "ideal" one for town work and within a radius of ten miles. With no noise, no dust, and no offensive odour, the "Electric Imperial Runabout" glides from door to door, the medical man, in his ordinary professional garb, locks the wheels with the foot brake and removing the little aluminium controlling key can leave his vehicle securely in charge of a small boy without fear of mishap. The total weight is 815 pounds, the battery consists of 12 cells of the Plante type and when loaded to its full capacity it will run 40 miles on the level road, the distance being discounted by steep gradients, head winds, and bad surface. It is an excellent hill climber and is easily driven by any member of the family, no special servant is needed to keep it in order, and with a charging plant in the motor house the car is always ready for service, and as the whole gearing runs on ball bearings, with boxed-up grease cavities, very little lubrication is necessary. As regards upkeep, from three to four units at 4*d.* per unit provides for the day's work. One new set of Fisk tyres at about £16 will last a year. It is well to provide a second battery to save wear and tear and in case of accidents it is useful to fit a weather glass front, for this with the hood gives complete protection. It will thus be seen that all the objectionable features of the petrol car are eliminated, as well as the more expensive details, such as chauffeur, explosive petrol, heavy and costly tyres, constant lubrication, complicated machinery, and not infrequent accidents. The electric car is not a touring car, but for professional purposes it is, I think, unrivalled.

I am, Sirs, yours faithfully,

Shide, Isle of Wight, Oct. 2nd, 1905. G. M. LOWE, M.D. Edin.

RETENTION OF URINE FOR SIX WEEKS AFTER LABOUR.

To the Editors of THE LANCET.

SIRS,—In reference to my letter on the above subject which appeared in THE LANCET of Sept. 16th the patient, aged 30 years, was a primipara and had a tedious labour. Version was performed and then forceps were applied on the after-coming head. The retention was complete for six weeks and then power returned to pass the urine naturally.

I am, Sirs, yours faithfully,

Leeds, Oct. 3rd, 1905. J. J. PICKLES, M.R.C.S. Eng.

THE LONDON TEMPERANCE HOSPITAL AND TEMPERANCE STATISTICS.

To the Editors of THE LANCET.

SIRS,—In a report furnished by Dr. Dawson Burns, honorary secretary of the London Temperance Hospital, highly favourable figures are produced with the idea of showing from the total abstainer's point of view the advantages of the non-alcoholic treatment of disease. May I therefore be allowed to point out what appears to me to be the fallacy of these statistics? According to the report in question the admissions in general hospitals were 65,656 with a death-rate of 9·1 per cent. On the other hand th admissions the London Temperance Hospital were 1337, with a death-rate of 7·3 per cent. Now, Sirs, it seems fairly obvious that the tendency of a temperance hospital would be to attract in the aggregate those who were either total abstainers or extremely moderate consumers. The consequence of this would be that the Temperance Hospital would tend to escape the ravages and degenerative changes produced by excessive alcohol on that section of the public which would be thrown on the general hospitals. Not only this, but the Temperance Hospital would likewise tend to escape the secondary consequences which may be due to intemperance, such as venereal disease or other forms of debauchery, which somehow in many cases run parallel with intemperance. If, therefore, my contention holds water there can be no surprise at the apparent success of the non-alcoholic treatment of disease.

In THE LANCET of July 18th, 1891, p. 146, you kindly published a letter from me under "Alcohol and Longevity" advocating my present doctrine and I subsequently wrote a letter which you could not find space to insert and in which I attempted to develop my suggestions. I do not think I was understood by the temperance advocates at the corresponding period. Anticipating, however, your kind and possible insertion of this letter it may shed some light upon what I was then talking about. However this may be, I now hold that if any sufficient number of the Temperance Hospital candidates were compared with an equal number of general hospital patients, it would be found upon searching investigation that the previous history of the Temperance Hospital patients would show in greater or less numbers a decided advantage over the general hospital patients, hence the less likelihood of the former to succumb to disease.

It is worthy of note that overtures have been made to general hospitals to attempt the experiment of non-alcoholic treatment. May I inquire why this should be? It appears fairly evident that in order to carry out such experiment wards must be apportioned for the purpose. Further, I presume it would be necessary to render the public cognisant of the new treatment, so that patients might have the choice whether to enter a temperance or a general ward; consequently the same process of elimination which I have attempted to demonstrate would prevail at the general hospital as I now maintain prevails at the Temperance Hospital; hence there would be no better evidence to establish the superiority of non-alcoholic treatment of disease than already exists. It is true the evidence in favour would be increased in bulk, not, however, in kind.

I am, Sirs, yours faithfully,

Brighton, Oct. 1st, 1905. CLEMENT H. SEBS.

"MINIKONES."

Mr. R. G. Neave, a druggist of Witney, Oxfordshire, has forwarded to us a sample of soap pencils intended for use as a suppository in cases of constipation in infants. The introduction into the rectum of a small piece of soap has long been a well-known method of treatment in cases of constipation in infants and Mr. Neave's preparation is certainly convenient. Although it is quite easy to cut a suitable piece of soap from an ordinary cake it is often difficult, especially in the poorer class of house, to find a cake of soap which is clean and not sodden with water, so that for the medical man to know that he has at hand a really pure dry soap pencil should be very useful.

"LOTA."

To the Editors of THE LANCET.

SIRS,—A correspondent of the West Indies asks me "for a remedy for the disease known as lota or white spots." Perhaps some of your readers can tell me what lota is.

I am, Sirs, yours faithfully,

TRINIDAD.

EXPERIMENTS ON CONDEMNED CRIMINALS.

To the Editors of THE LANCET.

SIRS,—Experiments on condemned criminals seem doomed to failure. In 1731 Charles Ray was reprieved on condition that Cheselden should perforate the drum of his ear to find out whether the perforation would cause deafness. Unfortunately, the man fell ill of a fever before the operation and the public became so excited that the experiment was stopped. In 1763 a man was reprieved on condition of permitting his leg to be cut off and a new styptic tried upon it. This man was inconsiderate enough to die before the trial could be made. In 1767 John Benham was reprieved for a similar purpose, as was imagined, but when Mr. Pierce, who had prepared a new styptic, waited upon the Secretary of State to find whether he might experiment he was told that the intention was entirely laid aside, His Majesty being of opinion that it was quite improper to try such experiment.

I am, Sirs, yours faithfully,

Henrietta-street, W., Oct. 2nd, 1905. A. W. OXFORD.

HEATING APPARATUS.

To the Editors of THE LANCET.

SIRS,—I would like to know which is the best heating apparatus for supplying pure and warm air in a medium-sized residence (very elevated), the occupier being affected with bronchitis during the winter months. Does the Grundy system answer as well as any other? if not, what are its real drawbacks?

I am, Sirs, yours faithfully,

Oct. nd, 1905. ANXIOUS PRACTITIONER.

*** Possibly the letter which appears on p. 1062 from Colonel A. C. MacLeod will help our correspondent.—ED. L.

Dr. F. P. Atkinson.—A normal solution of formic acid is one containing a molecular weight in grammes per litre. The molecular weight of formic acid, H.COOH, being 46, such a solution would contain 46 grammes in 1000 cubic centimetres, or approximately 400 grains of real formic acid per pint. Under the continental custom of using the metric system liquids are usually ordered by weight. Dilution alone is not sufficient to take away the pungent taste of formic acid. Chloroform water is a suitable vehicle and the addition of glycerine is desirable to mask the pungent taste. In prescribing formic acid it should always be well diluted, as the strong acid produces blisters on the skin in the same way as a nettle sting does. In France formic acid has been used largely in the form of the sodium salt, H.COONa, as mentioned in THE LANCET of April 1st, 1905, p. 892. It is deliquescent and readily soluble in water and is more palatable than the acid. 400 grains of the acid are equivalent to 591 grains of sodium formate. It is possible that the sodium salt might be used instead of the acid itself in the treatment of tremor, as is the case when the drug is employed as a tonic to the muscles.

B.Sc., F.R.C.S.—Such advertisements should not be constantly repeated and when this is done they become an abuse, but a simple statement made once or twice, or through one or two channels, contradicting a rumour is considered permissible.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynecological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.).

TUESDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (11th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.).

THURSDAY (12th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynecological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.). Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.).

FRIDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.).

SATURDAY (14th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (9th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8 P.M. General Meeting. 8.30 P.M. Introductory Address:—Sir Lauder Brunton (incoming President). Paper:—Dr. S. Clair Thomson: The Cerebral and Ophthalmic Complications of Sphenoidal Sinusitis, a Contribution based on Two Cases with Post-mortems.

TUESDAY (10th).—MEDICO-LEGAL SOCIETY (22, Albemarle-street, W.).—8 P.M. Annual General Meeting. Election of Officers and Council. Discussion on Finger-print Evidence (with lantern slides) (opened by Dr. J. G. Garson).

WEDNESDAY (11th).—DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M. Meeting.

THURSDAY (12th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Dr. F. Edge. Papers:—Dr. B. Fenwick: (1) A Remarkable Case of Pulmonary Embolism; (2) Four Years' Hospital Abdominal Surgery.

FRIDAY (13th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Dr. D. Newman: Demonstration of the Cystoscopic Appearances in Renal Disease. Paper:—Mr. E. M. Corner: A Case of Tuberculosis in a Diverticulum of the Bladder found in an Inguinal Hernia.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (9th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. A. Whitfield: Clinique. (Skin.) 5.15 P.M. Dr. D. Grant: Laryngeal Ulcerations and Infiltrations.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—Lecture cancelled.

TUESDAY (10th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. S. Taylor: Clinique. (Medical.) 5.15 P.M. Dr. B. Abrahams: The Irregular Heart.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—Lecture cancelled.

ROYAL INSTITUTE OF PUBLIC HEALTH (19, Bloomsbury-square, W.C.).—5 P.M. Prof. T. Oliver: Some of the Maladies caused by the Air we breathe in the Home, the Factory, and the Mine, including a description of Caisson Disease or Compressed Air Illness. (Harben Lecture.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. Beevor: Cerebral Localisation.

WEDNESDAY (11th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Berry: Clinique. (Surgical.) 5.15 P.M. Dr. G. H. Savage: Senile Insanities.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Opening Address of Winter Session:—President of the Royal College of Surgeons.

THURSDAY (12th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M. Dr. L. Williams: The Therapeutics of some Common Ailments.

POST-GRADUATE COLLEGE (London County Lunatic Asylum, Hanwell).—3 P.M. Dr. R. B. Cole: Classification of Insanity.

ROYAL INSTITUTE OF PUBLIC HEALTH (19, Bloomsbury-square, W.C.).—5 P.M. Prof. T. Oliver: Some of the Maladies caused by the Air we breathe in the Home, the Factory, and the Mine, including a description of Caisson Disease or Compressed Air Illness. (Harben Lecture.)

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone road, N.W.).—3 P.M. Lecture:—Mr. Doran: Pregnancy and Abdomino-Pelvic Tumour, Diagnosis and Treatment.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—6 P.M. Dr. M. Dockrell: Eczema, its Varieties, Symptoms, and Causes. (Chesterfield Lecture.)

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (7, Fitzroy square, W.).—5 P.M. Introductory Lecture:—Dr. H. Campbell: The Enlargement of the Chest in Pulmonary Disease. (Post-Graduate Course.)

WESTMINSTER HOSPITAL MEDICAL SCHOOL (University of London) (Caxton street, Westminster, S.W.).—5 P.M. Lecture:—Dr. B. Abrahams: Applied Physiology. (Lecture I.)

FRIDAY (13th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. D. Grant: Clinique. (Ear.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. R. J. Reece: The Dwelling House and its Surroundings.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. Beevor: Cerebral Localisation.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

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WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

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The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 5th, 1905.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Sept. 29	29·77	N.E.	...	82	64	52	55	57	Raining
,, 30	29·91	N.E.	0·01	97	57	50	49	52	Fine
Oct. 1	29·98	N.W.	...	73	56	43	45	48	Cloudy
,, 2	29·80	N.	0·01	91	56	43	47	50	Cloudy
,, 3	29·91	N.	...	96	57	45	43	47	Cloudy
,, 4	29·48	W.	...	63	58	47	53	56	Cloudy
,, 5	29·48	N.W.	0·08	89	54	50	49	53	Cloudy

During the week marked copies of the following newspapers have been received:—*York Herald, Burton Mail, Manchester Guardian, Glasgow Record and Mail, Northampton Reporter, Birmingham Post, Liverpool Courier, Manchester Evening News, London Argus, Leeds and Yorkshire Mercury, Cardiff Mail, Blackpool Gazette, Notts Weekly Express, Wolverhampton Express, Stafford Sentinel, Cardiff News, Notts Guardian, Sheffield Telegraph, Plymouth Mercury, Plymouth Eastern Morning News, Derbyshire Express, Belfast News, Dublin Evening Herald, Globe, Pall Mall Gazette, Dundee Advertiser, Dublin Times, Cardiff Mail, &c.*

Communications, Letters, &c., have been received from—

A.—Dr. J. M. Atkinson, Lond.; Messrs. Arnold and Sons, Lond.; A. C. S.; Mr. F. P. Atkinson, Bexhill-on-Sea; Mr. George A. Arnandin, Lond.

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